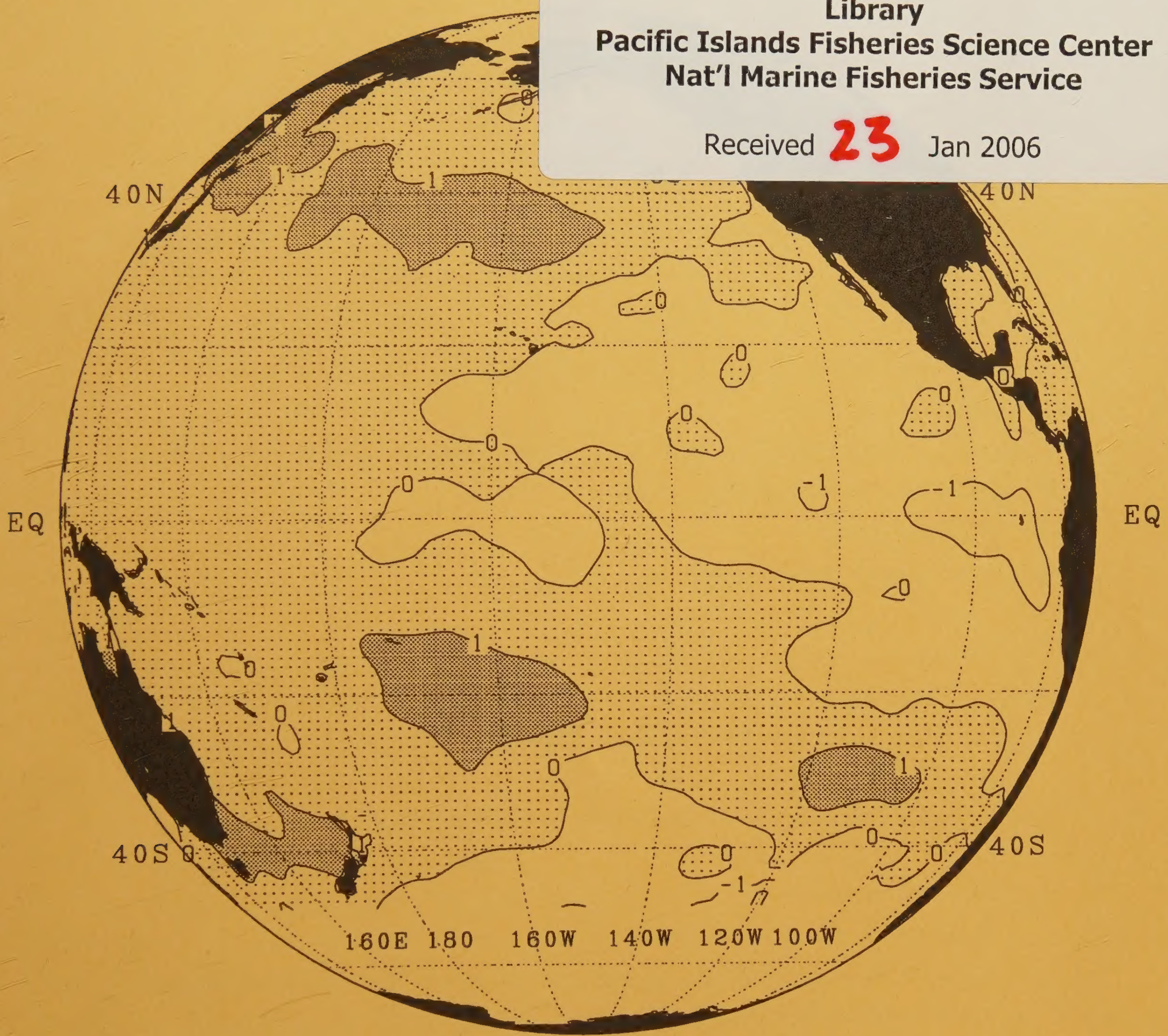
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# 気象庁海洋月報

# Monthly Ocean Report
## November 2005 (No. 155)






Global Environment and Marine Department
Japan Meteorological Agency

気象庁 地球環境・海洋部

平成17年11月

気象庁海洋月報は、気象庁 地球環境・海洋部 海洋気象情報室で作成しています。
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Monthly Ocean Report is prepared by the Office of Marine Prediction, Global Environment and Marine Department, Japan Meteorological Agency.

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表紙は、2005 年 11 月の太平洋の月平均海面水温偏差図です。
陰影部は、平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for November 2005 in the Pacific Ocean.
Areas of positive anomalies are shaded.

# 目　次



* MGDSST (Merged satellite and *in-situ* data Global Daily SST)を使用している。
** 従来と同様の、現場観測による海面水温をもとにした解析値を使用している。

# Table of Contents



* Based on MGDSST (Merged satellite and *in-situ* data Global Daily SST).

** Based on the traditional analysis using *in-situ* SSTs.

# 海況の特徴（２００５年１１月）

## 日本近海の海況

海面水温は、全般に平年より高く、北海道周辺の海域で平年より2℃以上高かった（第４図)。

黒潮は、四国から紀伊半島に接岸した後、東海沖を東へ流れた。その後、138° E付近で北東に向きを変え、三宅島付近を通過し、房総半島沖を北東に流れていた（第９図)。

## 太平洋の海況

太平洋赤道域の海面水温は、175° W 以東で平年より低く、110° Wから90° Wにかけて-1℃を超える負偏差が見られた。一方、175° W 以西では平年より高く、155° Eから170° E にかけて平年より0. 5℃以上高かった。

北太平洋の海面水温は、ほぼ全域で平年より高く、40° Nに沿った150° W以西の海域で+1℃を超える正偏差が見られた（第１７図)。

# Highlights November 2005

## Seas adjacent to Japan

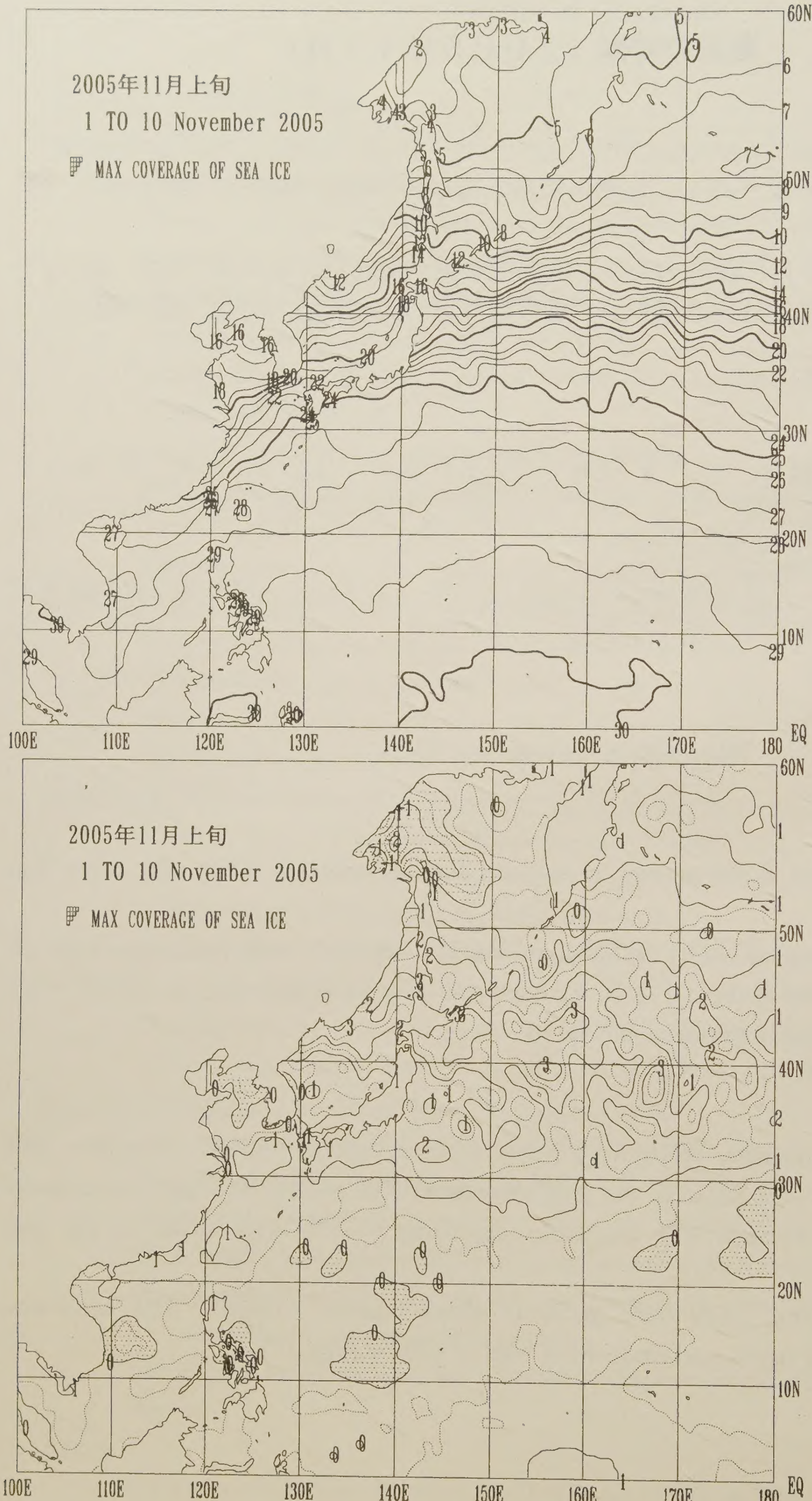
SSTs were generally above normal. In the seas around Hokkaido, SSTs were more than 2℃ above normal (Fig. 4).

The Kuroshio flowed close to Shikoku and the Kii Peninsula and flowed eastward off Tokai. After turning NE-ward at about 138°E, it passed near Miyake Island, then flowed NE-ward off the Boso Peninsula throughout the month (Fig. 9).

## Pacific Ocean

In the equatorial Pacific, SSTs were below normal east of 175°W. Negative SST anomalies exceeding -1℃ were found in the seas between 110°W and 90°W. SSTs were above normal west of 175°W. Positive SST anomalies exceeding +0.5℃ were found in the seas between 155°E and 170°E .

In the North Pacific, SSTs were generally above normal. Positive SST anomalies exceeding +1℃ were found in the seas along 40°N west of 150°W (Fig. 17).



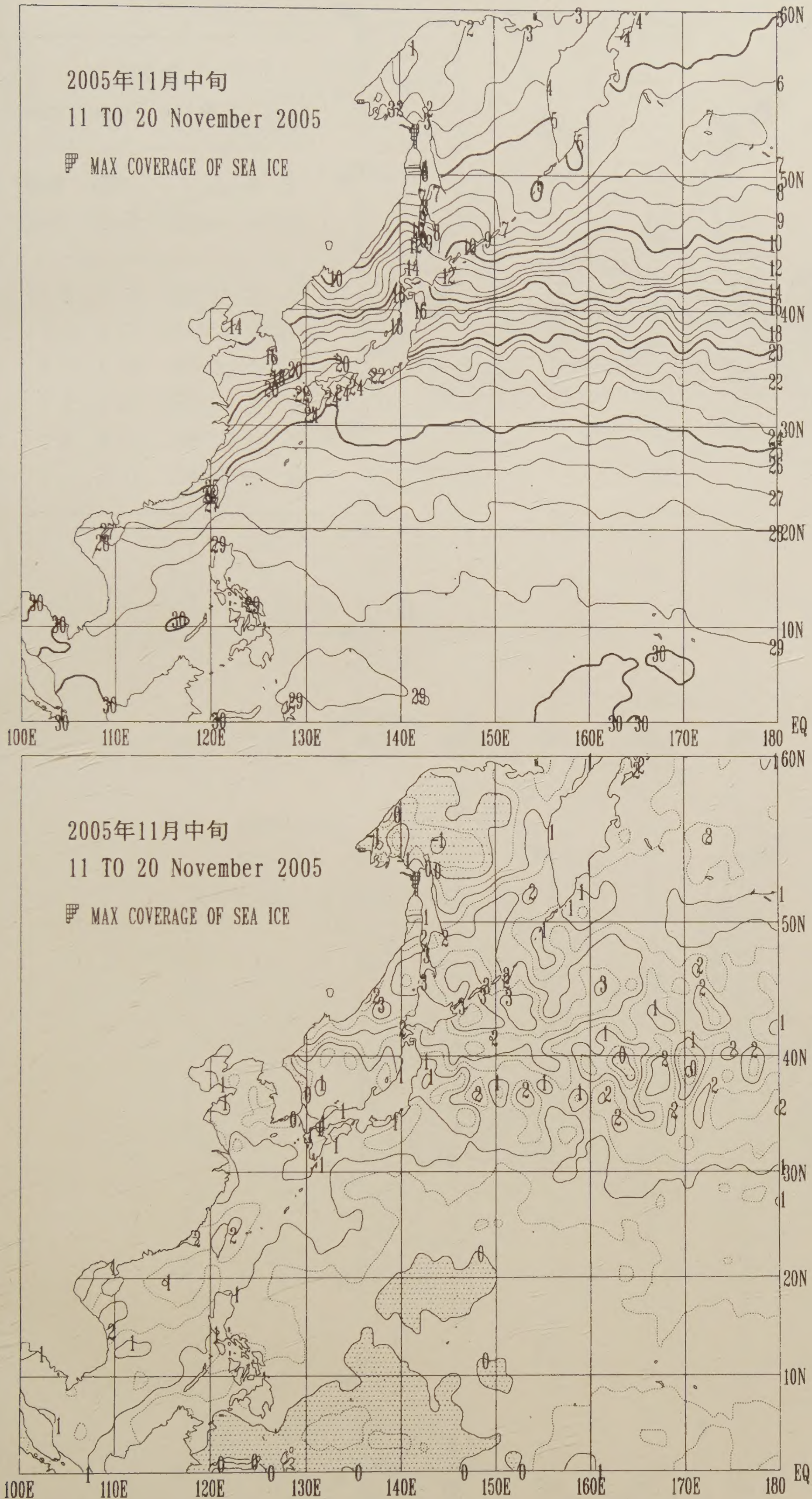

旬平均沿岸水温(℃)
Coastal Water Temperature

| 地 点 名<br>(Index Number) | 水温<br>Temp. | 偏差<br>Anom. |
|---|---|---|
| 石 垣(47918) | 26.0 | 0.7 |
| 御前崎(47655) | 19.3 | 0.4 |
| 小名浜(47598) | 17.6 | 0.1 |
| 宮 古(47585) | 16.6 | 0.6 |
| 江 差(47428) | 16.1 | 2.1 |
| 浜 田(47755) | 20.2 | 0.7 |

第1図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(2005年11月上旬)

Fig. 1 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 1st ten-day period in November 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are stippled.

Ten-day mean SST & Anomalies

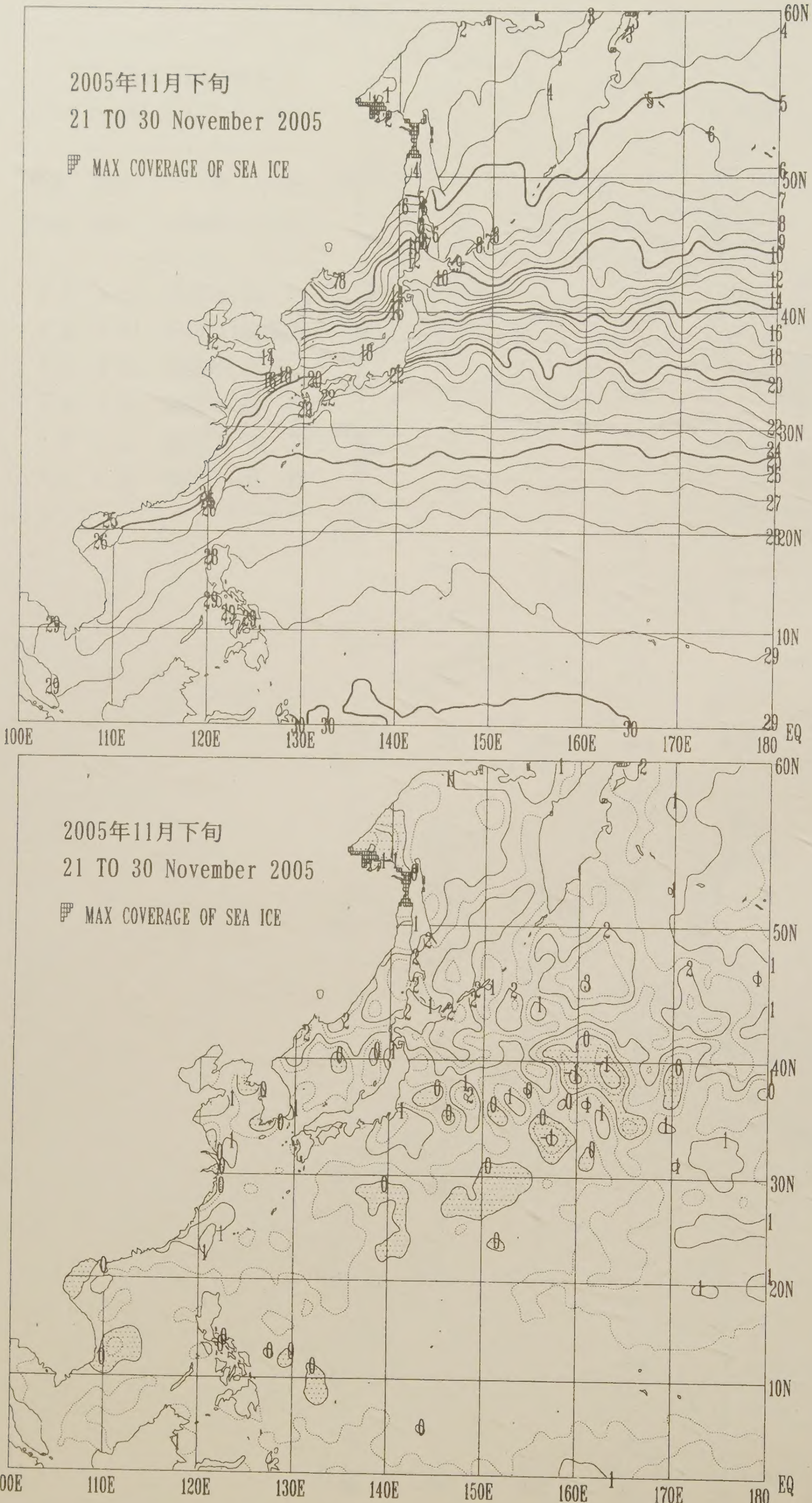



旬平均沿岸水温 (℃)
Coastal Water Temperature

| 地点名 (Index Number) | 水温 Temp. | 偏差 Anom. |
| --- | --- | --- |
| 石　垣 (47918) | 25.4 | 0.8 |
| 御前崎 (47655) | 17.8 | 0.3 |
| 小名浜 (47598) | 16.0 | -0.4 |
| 宮　古 (47585) | 15.7 | 0.7 |
| 江　差 (47428) | 12.3 | 0.1 |
| 浜　田 (47755) | 19.3 | 0.7 |

第2図　北西太平洋旬平均海面水温図 (上) 及び偏差図 (下) (2005年11月中旬)

Fig. 2 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 2nd ten-day period in November 2005.　Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines.　Negative anomalies are stippled.

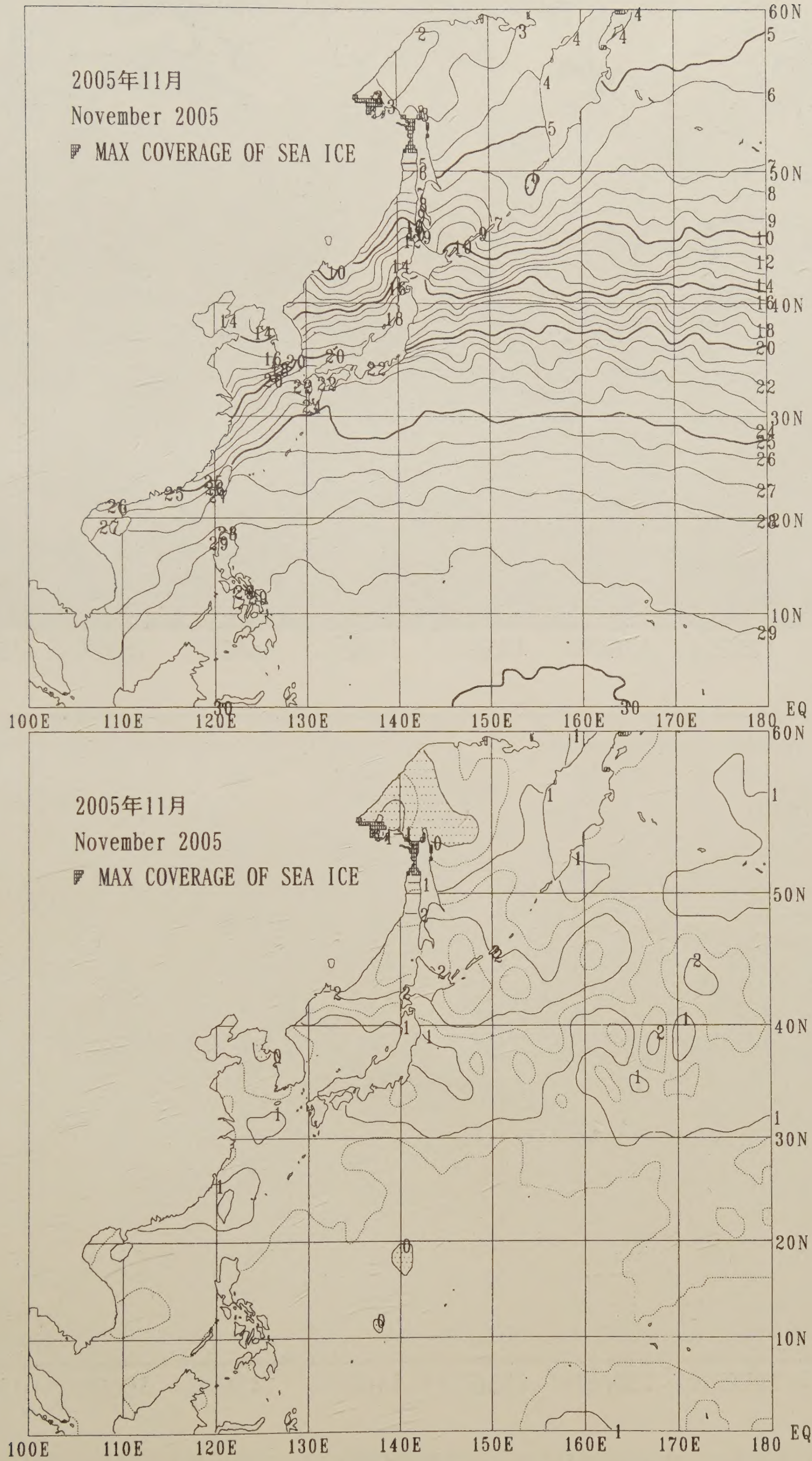



旬平均沿岸水温(℃)
Coastal Water Temperature

| 地点名 (Index Number) | 水温 Temp. | 偏差 Anom. |
|---|---|---|
| 石　垣(47918) | 23.7 | 0.1 |
| 御前崎(47655) | 17.8 | 1.7 |
| 小名浜(47598) | 14.4 | -0.9 |
| 宮　古(47585) | 14.6 | 0.7 |
| 江　差(47428) | 11.0 | 0.2 |
| 浜　田(47755) | 18.5 | 1.1 |

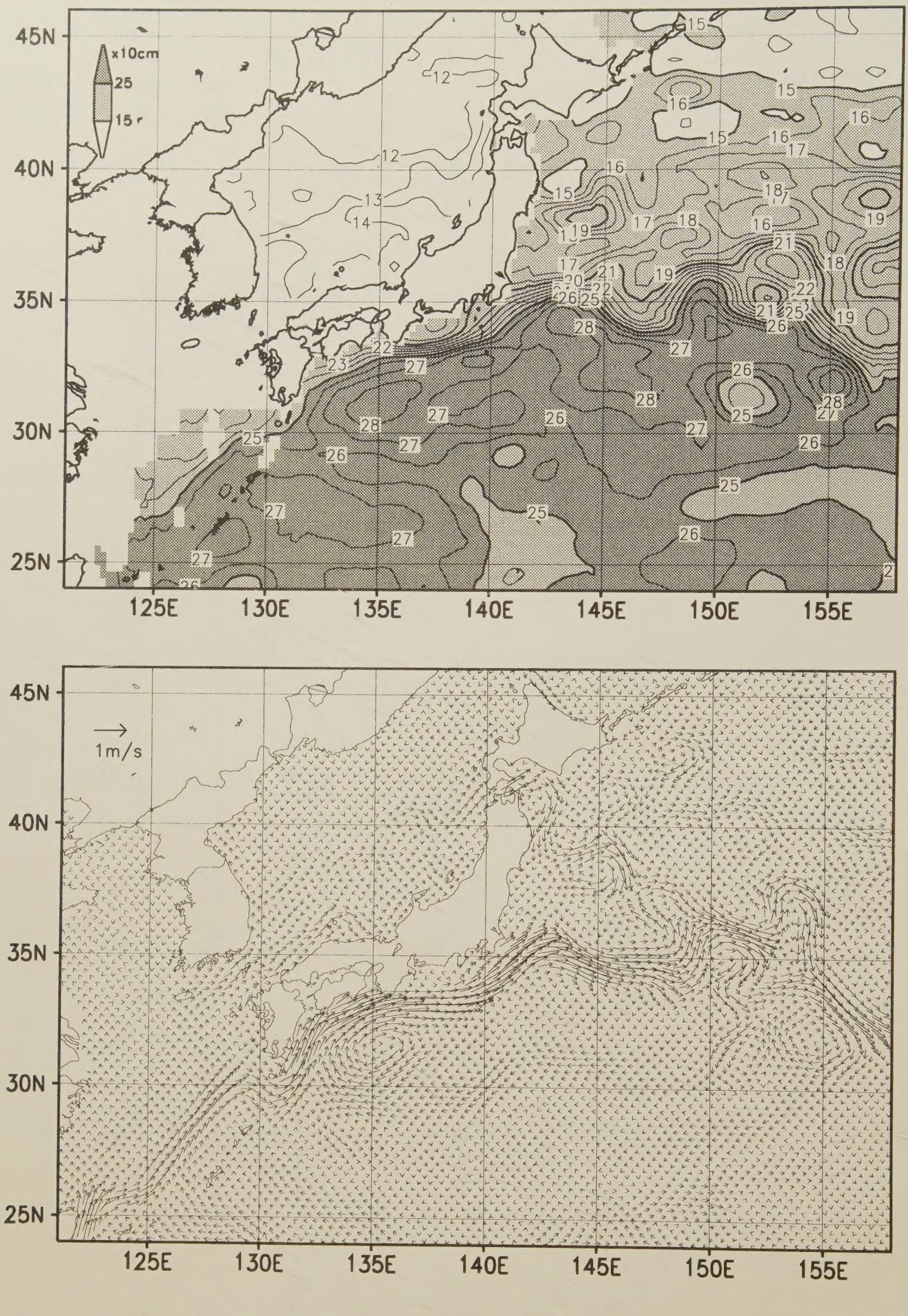
第3図 北西太平洋旬平均海面水温図(上)及び偏差図(下) (2005年11月下旬)

Fig. 3 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 3rd ten-day period in November 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are stippled.



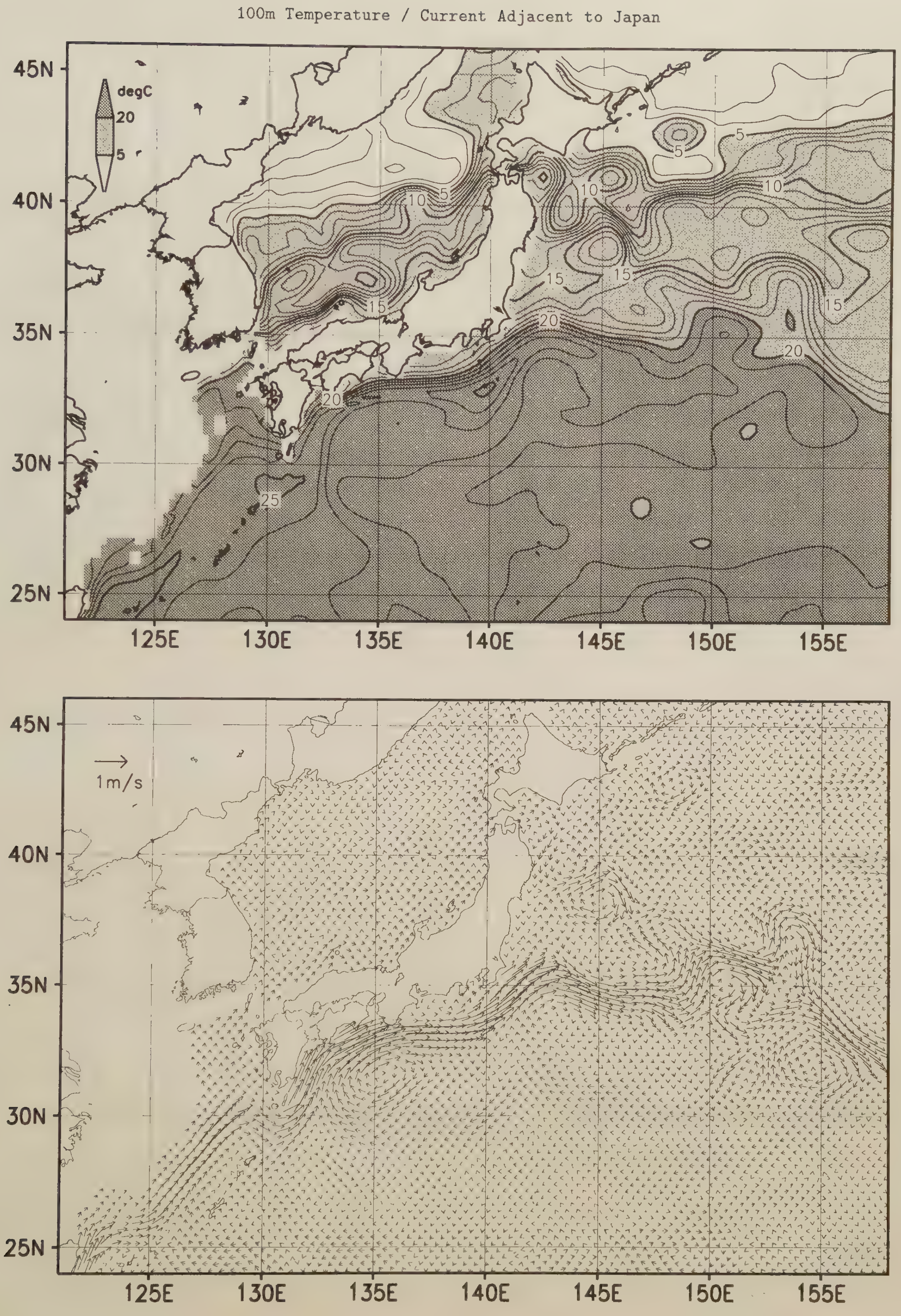

第4図 北西太平洋月平均海面水温図(上)及び偏差図(下) (2005年11月)

Fig. 4 Monthly mean SST (top) and anomalies (bottom) in the western North Pacific for November 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are stippled.



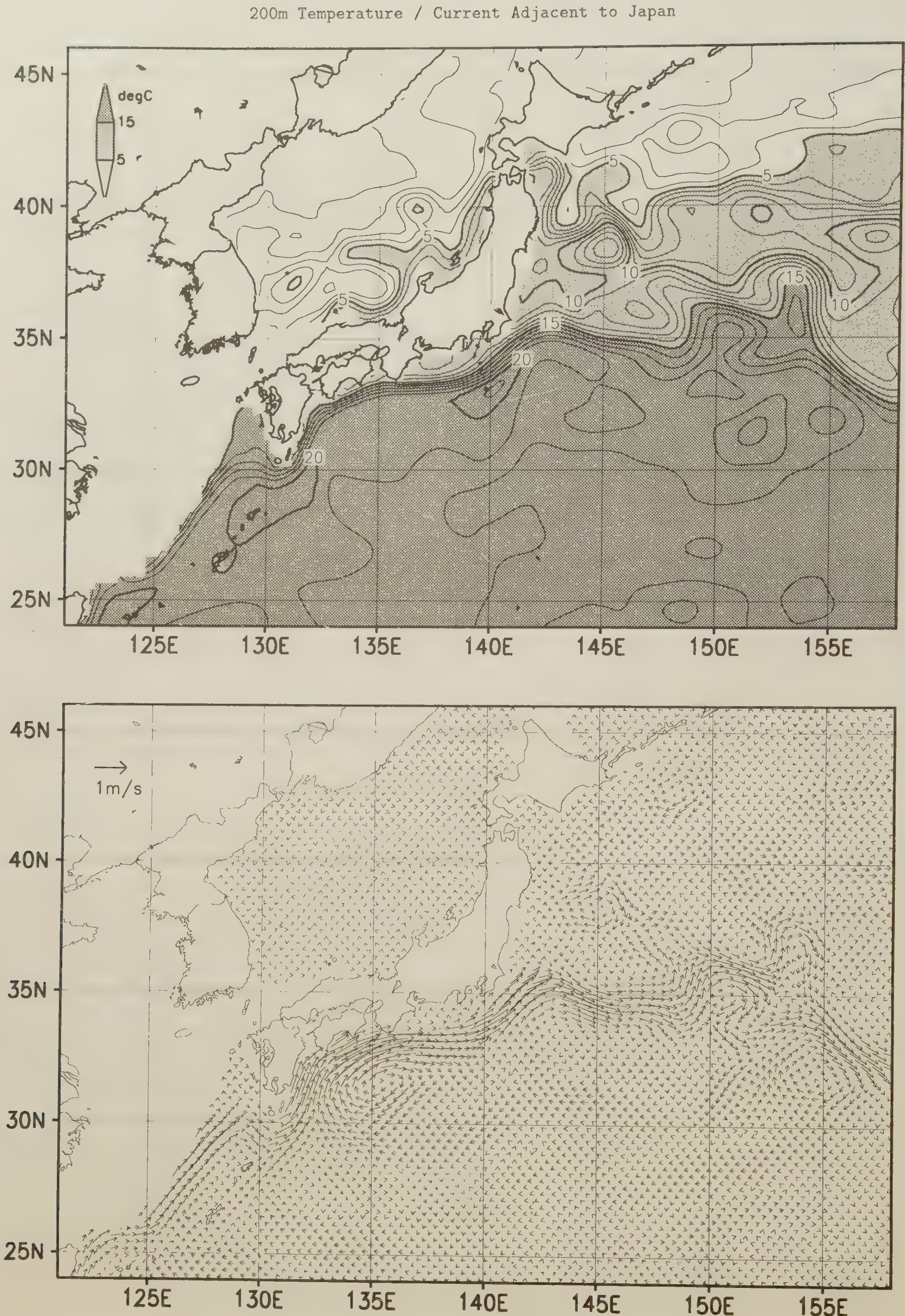

第 5 図　日本近海月平均海面高度分布図 (上) と海面海流図 (下) (2005 年 11 月)
(海洋総合解析システムによる)

Fig. 5　Monthly mean sea surface height (top) and current (bottom) in seas adjacent to Japan for November 2005. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)



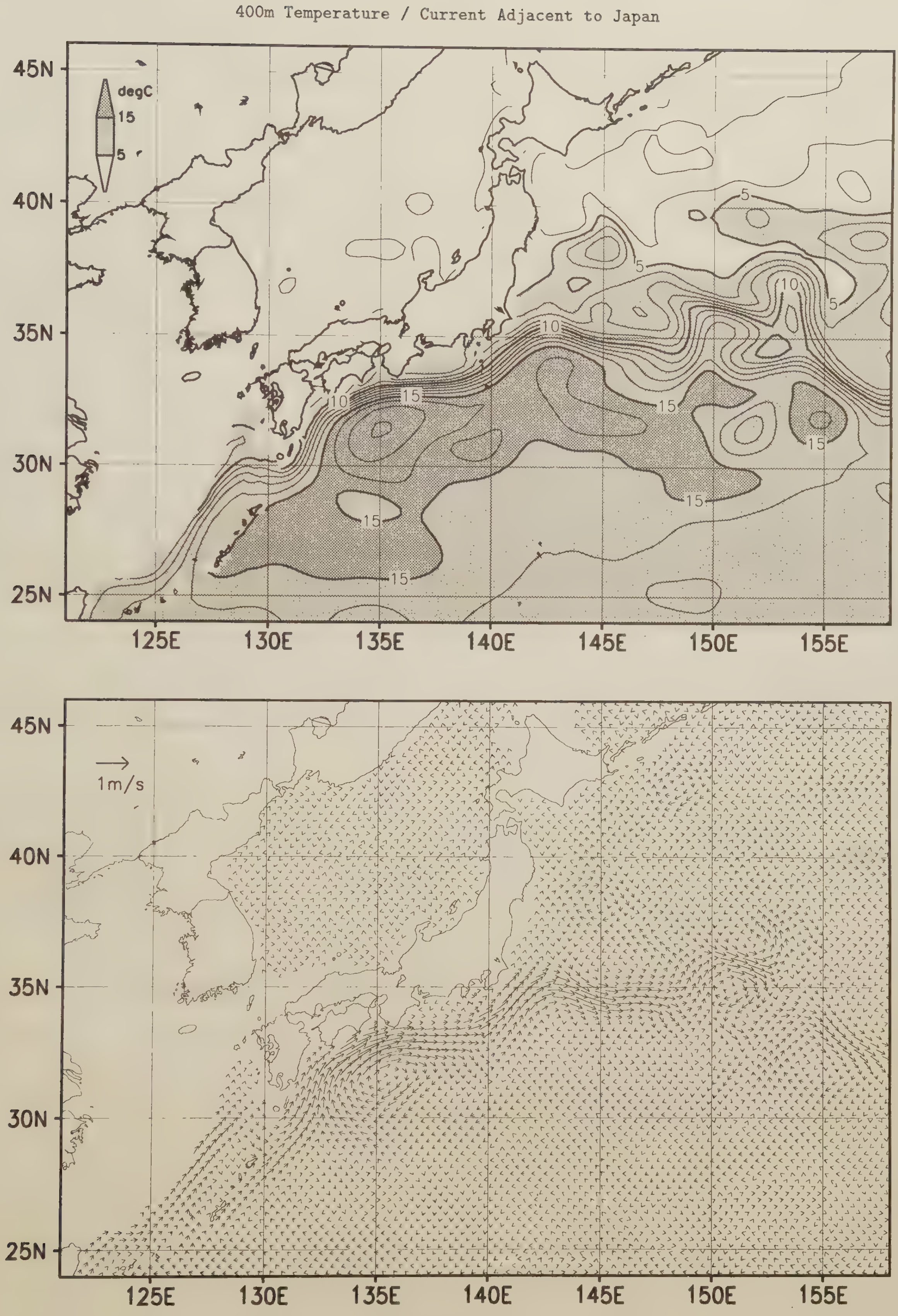

第 6 図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 100 m）（2005 年 11 月）
（海洋総合解析システムによる）

Fig. 6　Monthly mean subsurface (100 m) temperature (top) and current (bottom) in seas adjacent to Japan for November 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)




第 7 図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 200 m）（2005 年 11 月）
（海洋総合解析システムによる）

Fig. 7　Monthly mean subsurface (200 m) temperature (top) and current (bottom) in seas adjacent to Japan for November 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)



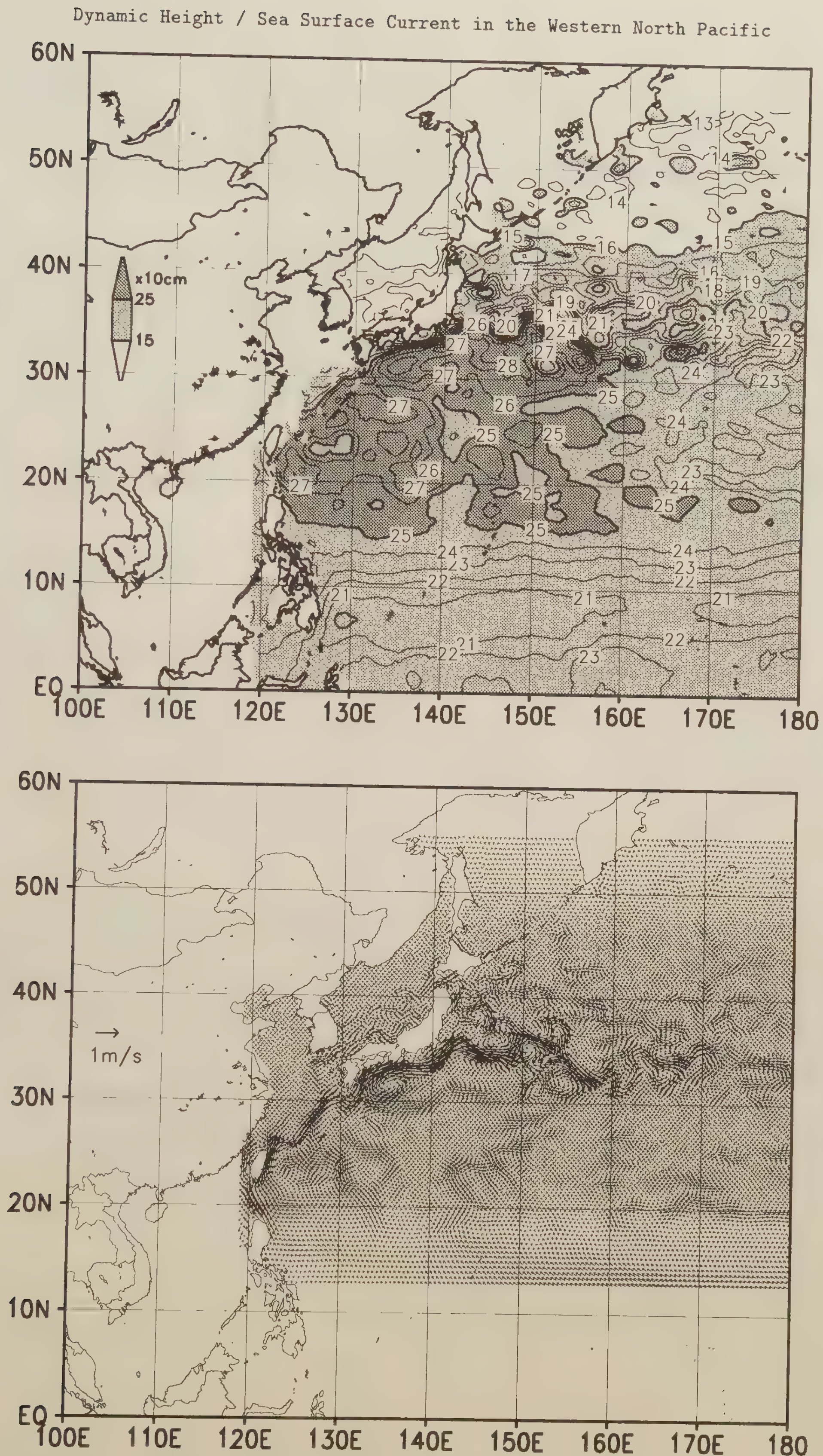

第 8 図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 400 m）（2005 年 11 月）
（海洋総合解析システムによる）

Fig. 8　Monthly mean subsurface (400 m) temperature (top) and current (bottom) in seas adjacent to Japan for November 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)




第9図 旬別黒潮流軸図

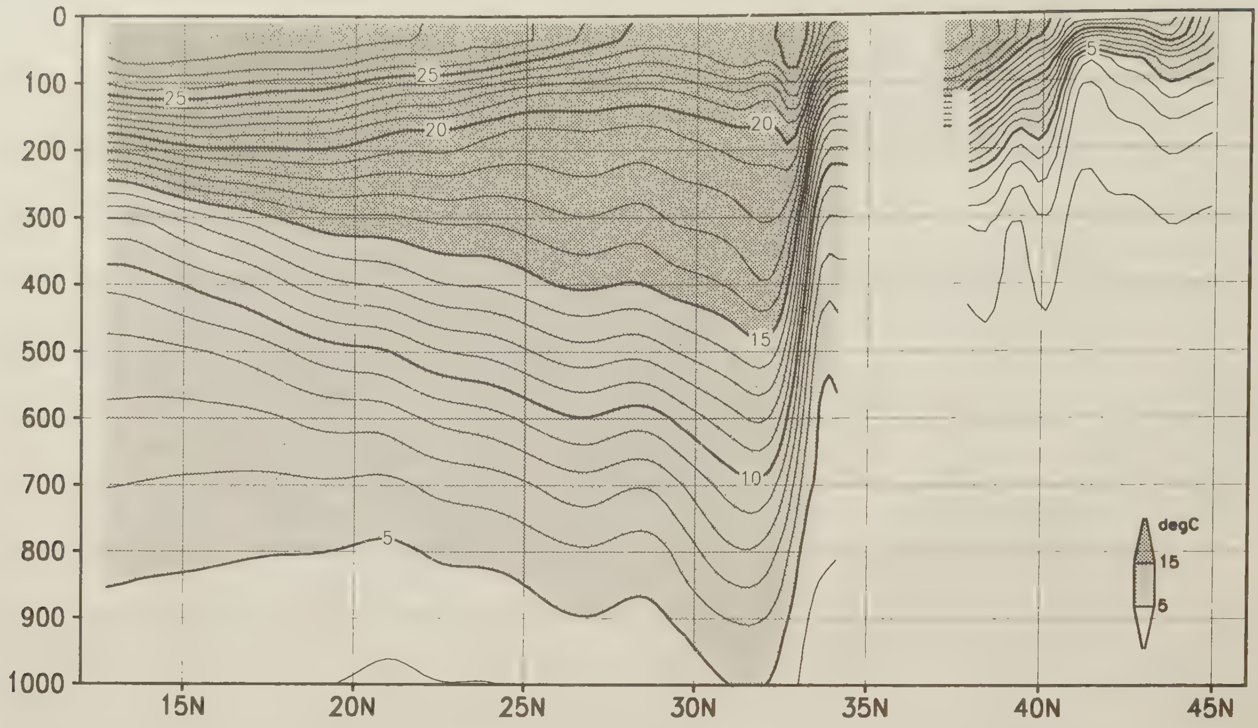
Fig. 9 Location of the Kuroshio axis




第 10 図　北西太平洋月平均海面高度分布図 (上) と海面海流図 (下)　(2005 年 11 月)
（海洋総合解析システムによる）

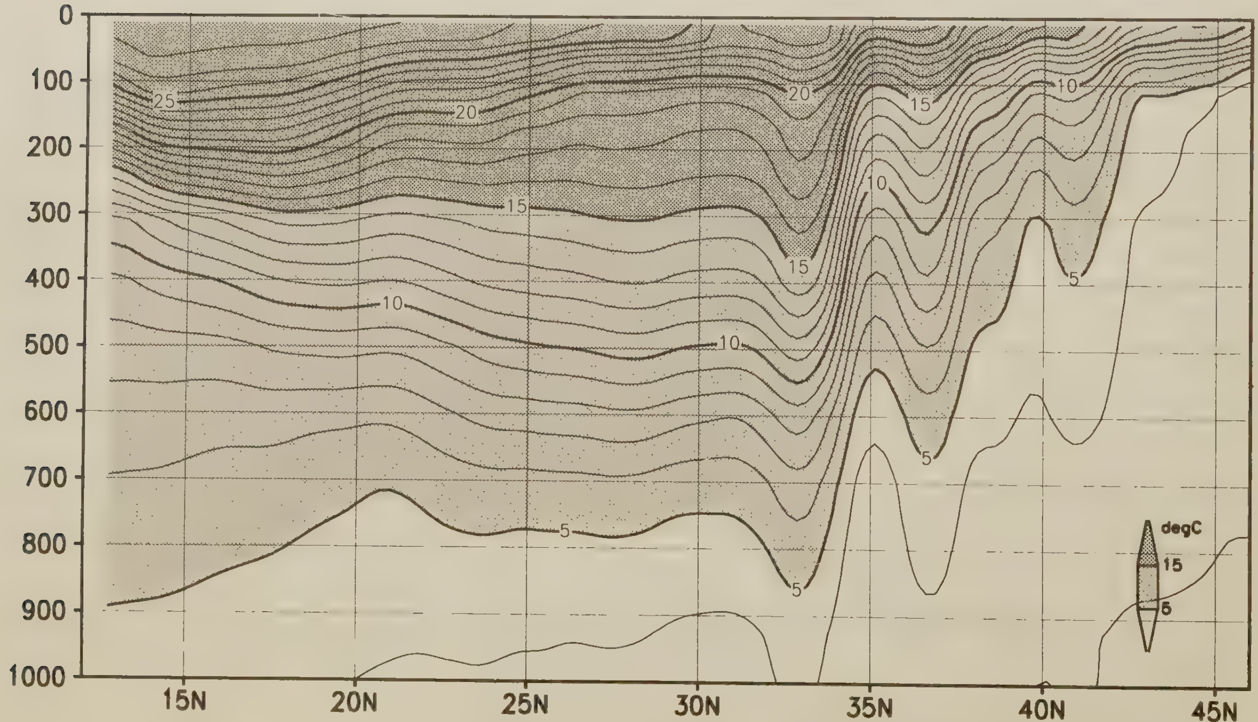
Fig. 10　Monthly mean sea surface height (top) and current (bottom) in the western North Pacific for November 2005. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)

Depth-Latitude Sections of Temperature along 137E / 165E



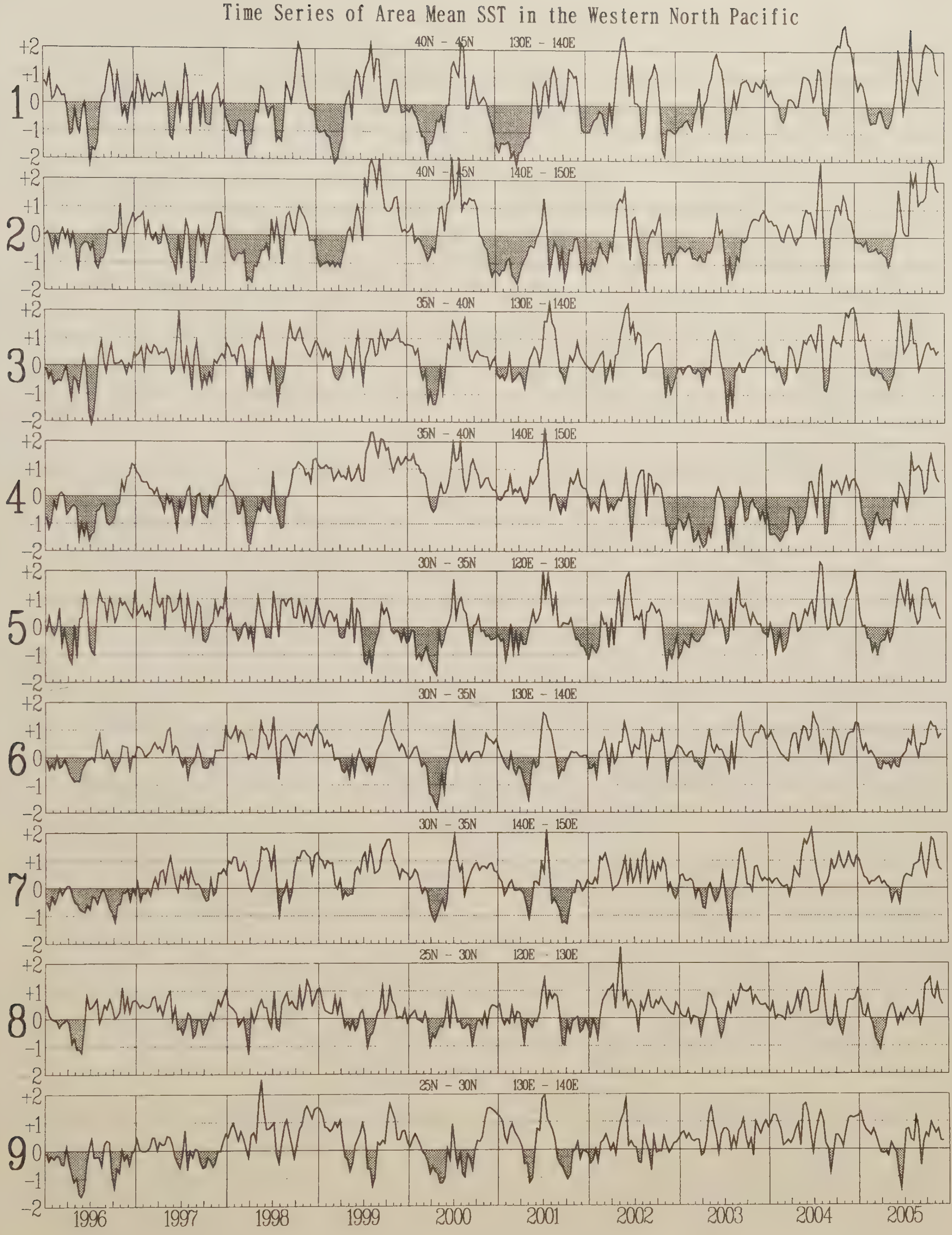

第 11 図　東経 137° 線に沿う月平均表層水温の鉛直断面図 (2005 年 11 月)
(海洋総合解析システムによる)

Fig. 11　Vertical cross section of monthly mean temperature along 137 °E for November 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



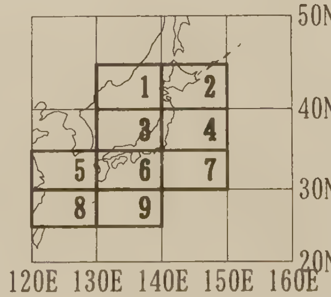

第 12 図　東経 165° 線に沿う月平均表層水温の鉛直断面図 (2005 年 11 月)
(海洋総合解析システムによる)

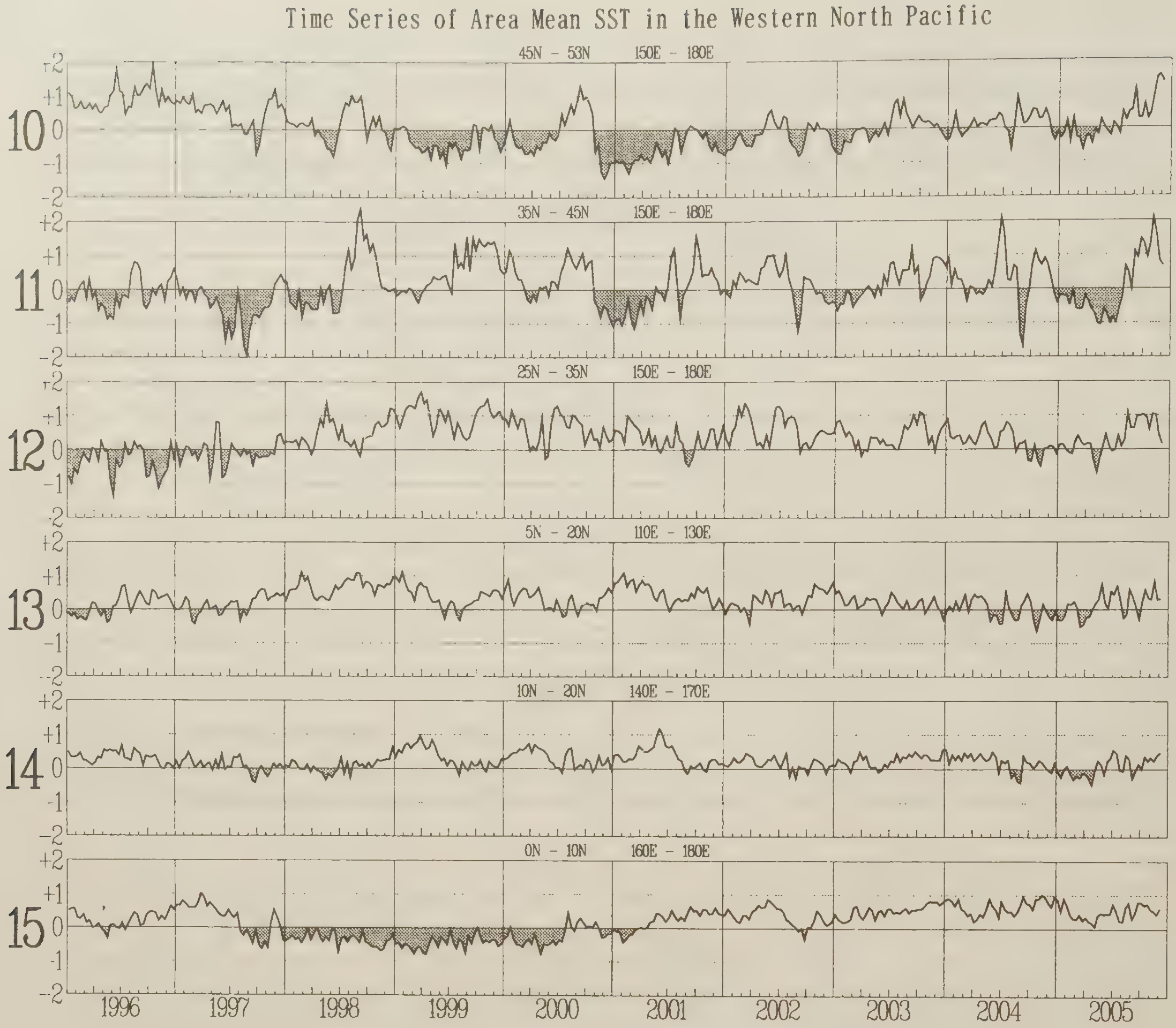
Fig. 12　Vertical cross section of monthly mean temperature along 165 °E for November 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)




第13図　海域別旬平均海面水温平年偏差時系列図

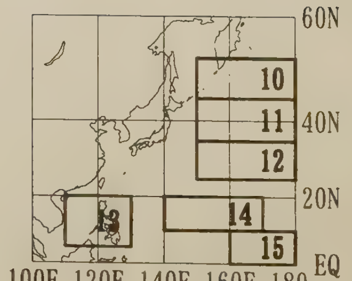
Fig. 13 Time series of the ten-day mean SST anomalies (°C) averaged for the sub-areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).

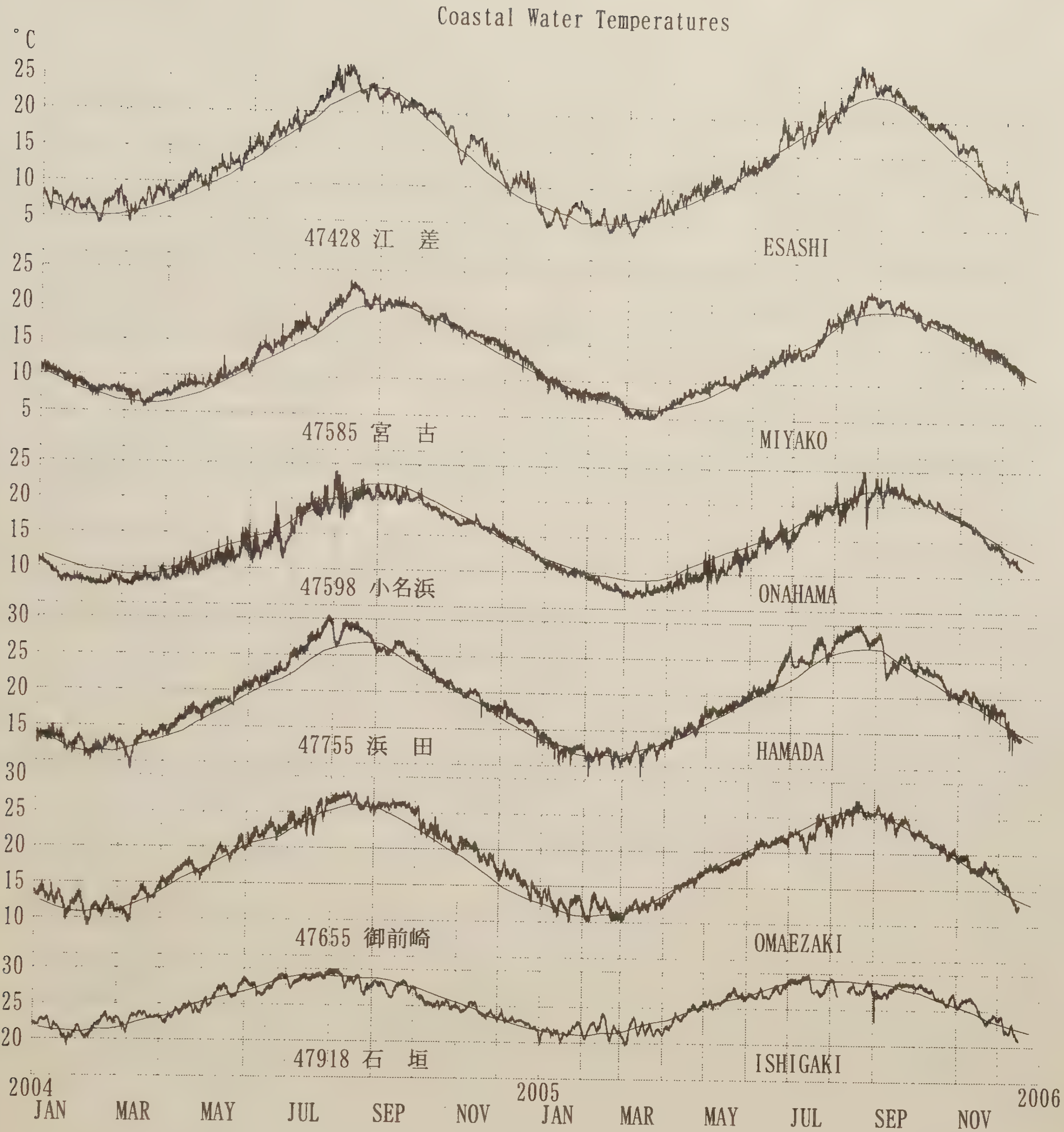


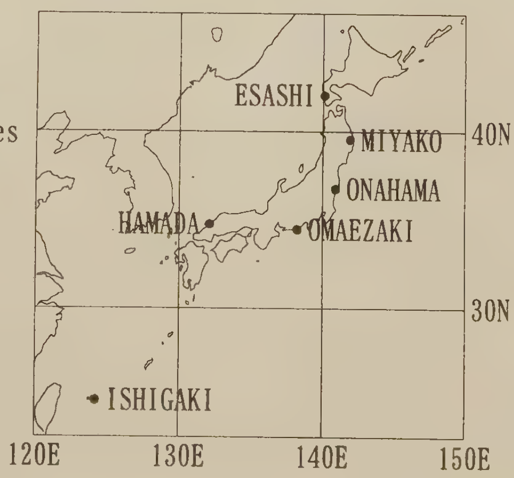



第13図　海域別旬平均海面水温平年偏差時系列図（つづき）

Fig. 13 (continued) Time series of the ten-day mean SST anomalies (°C) averaged for the sub-areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).

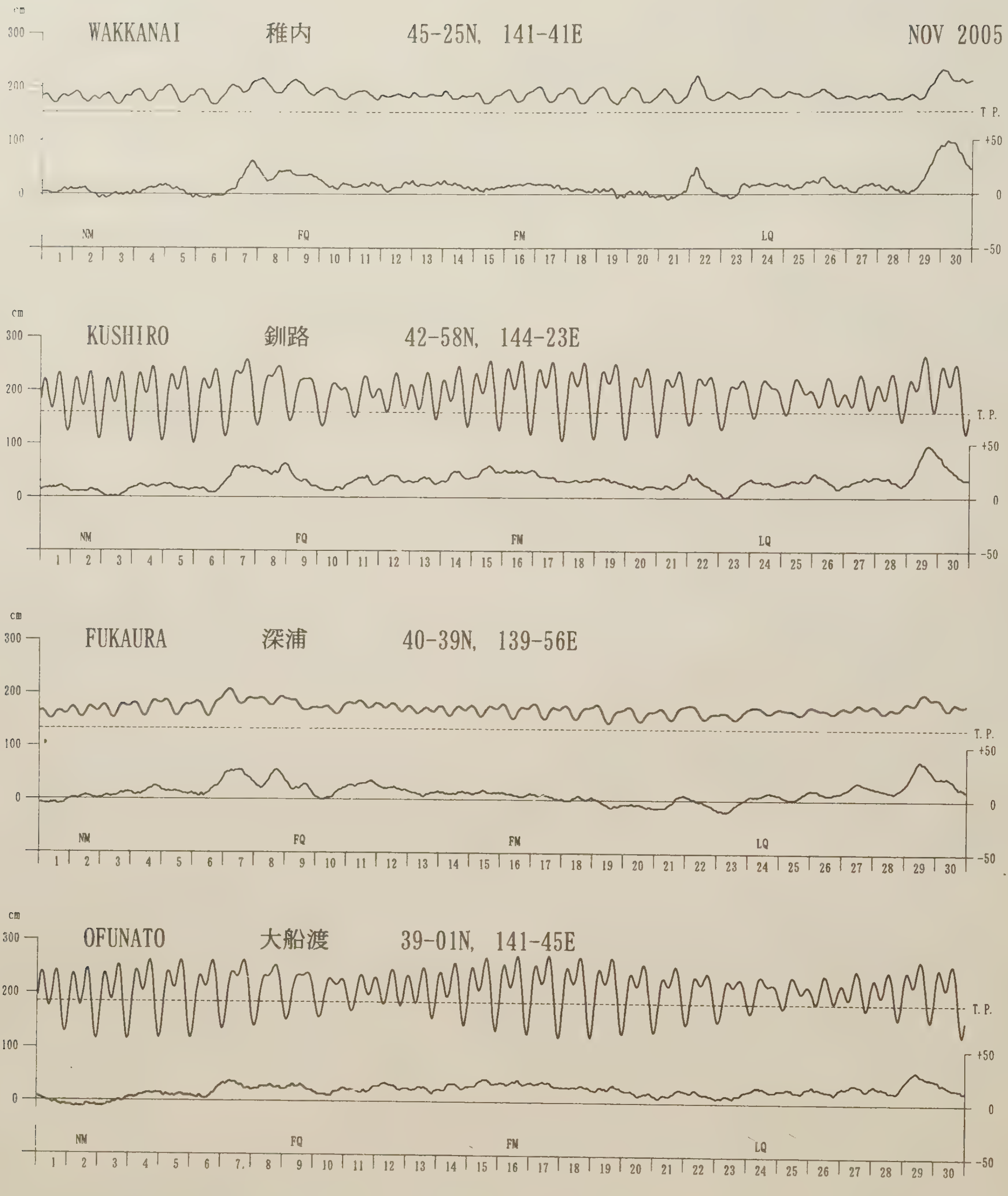





第14図 沿岸水温時系列図

Fig. 14 Time series of hourly coastal water temperatures (°C) measured at 6 coastal stations of the JMA shown in the right panel.
Thin lines show ten-day mean climatology.



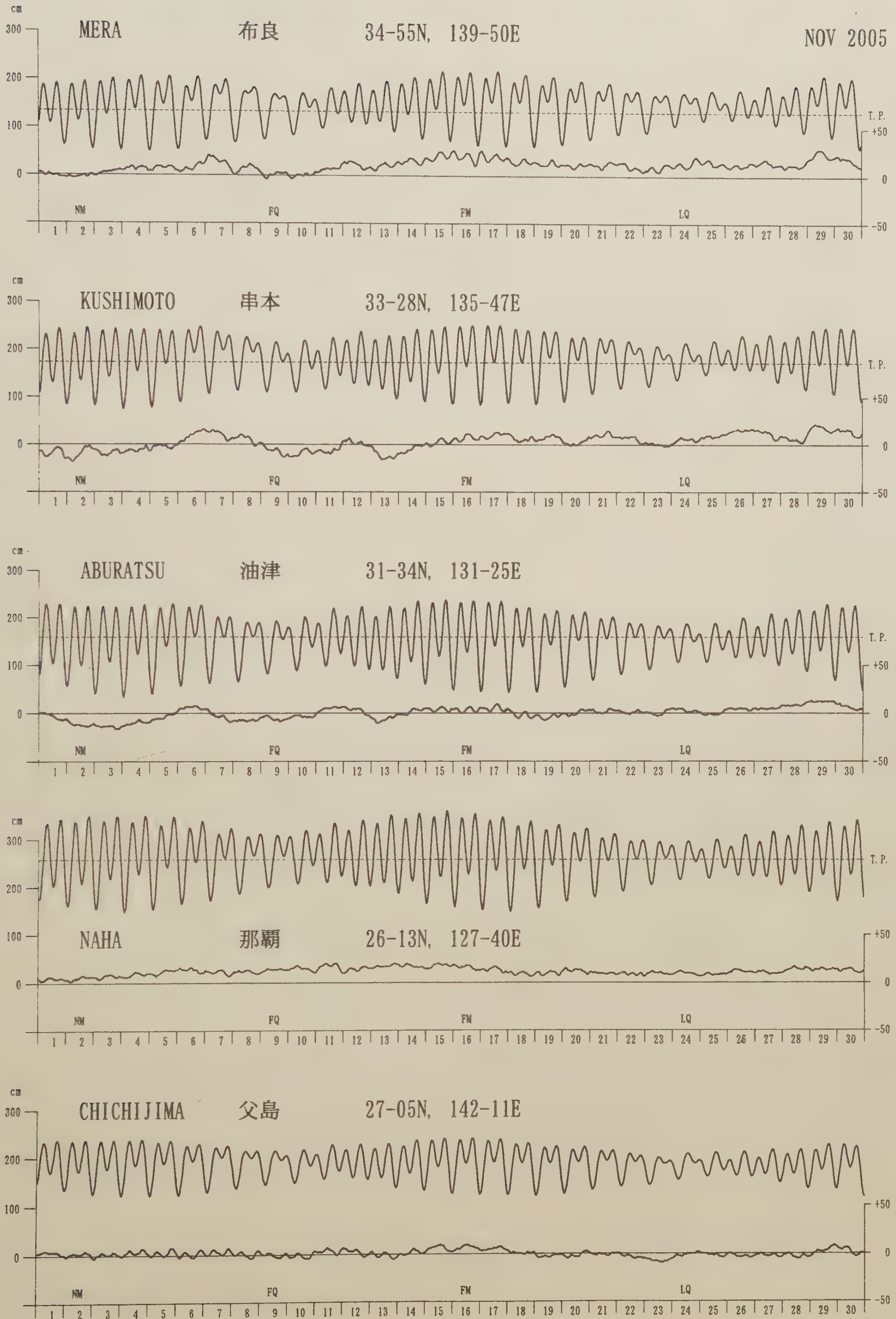

第15図 沿岸潮位時系列図（2005年11月）

Fig. 15 Time series of hourly sea level observation (upper line) and its anomalies (lower line) at 9 stations of the JMA in the right panel.
Short term variations are filtered out from raw data.

NM: new moon,　FQ: first quarter
FM: full moon,　LQ: last quarter
T. P. : Mean sea level of Tokyo Bay (Tokyo Peil)

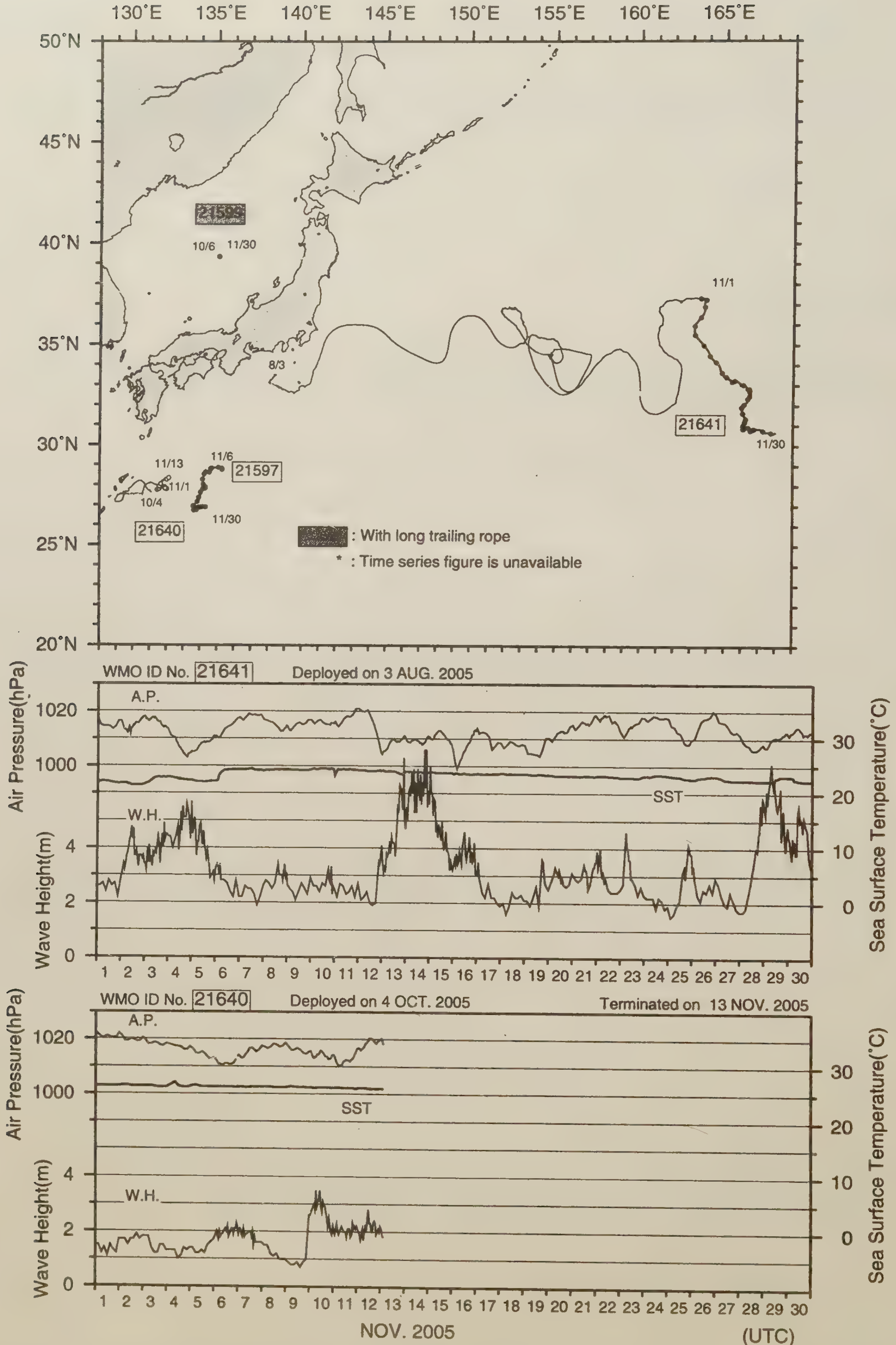


Time series of Sea Level



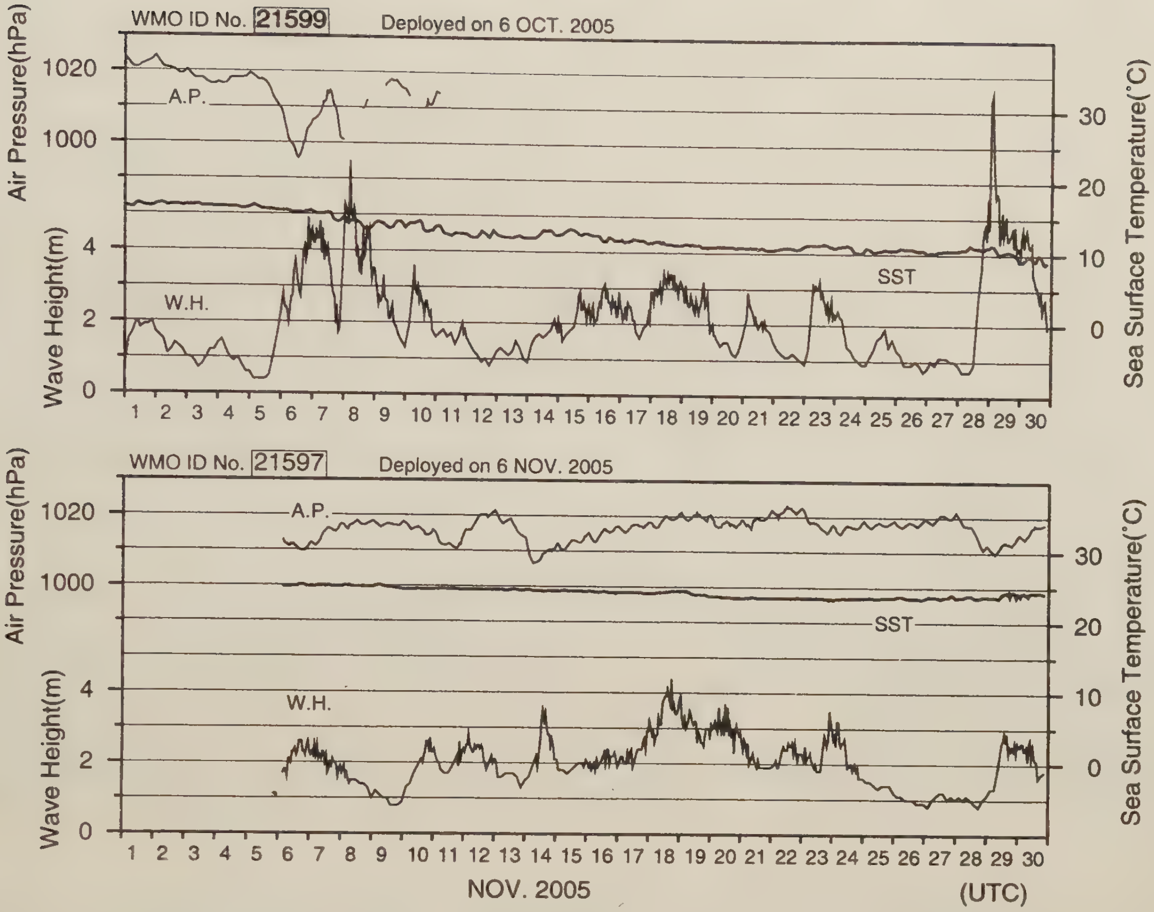

第15図 つづき

Fig. 15 (continued)



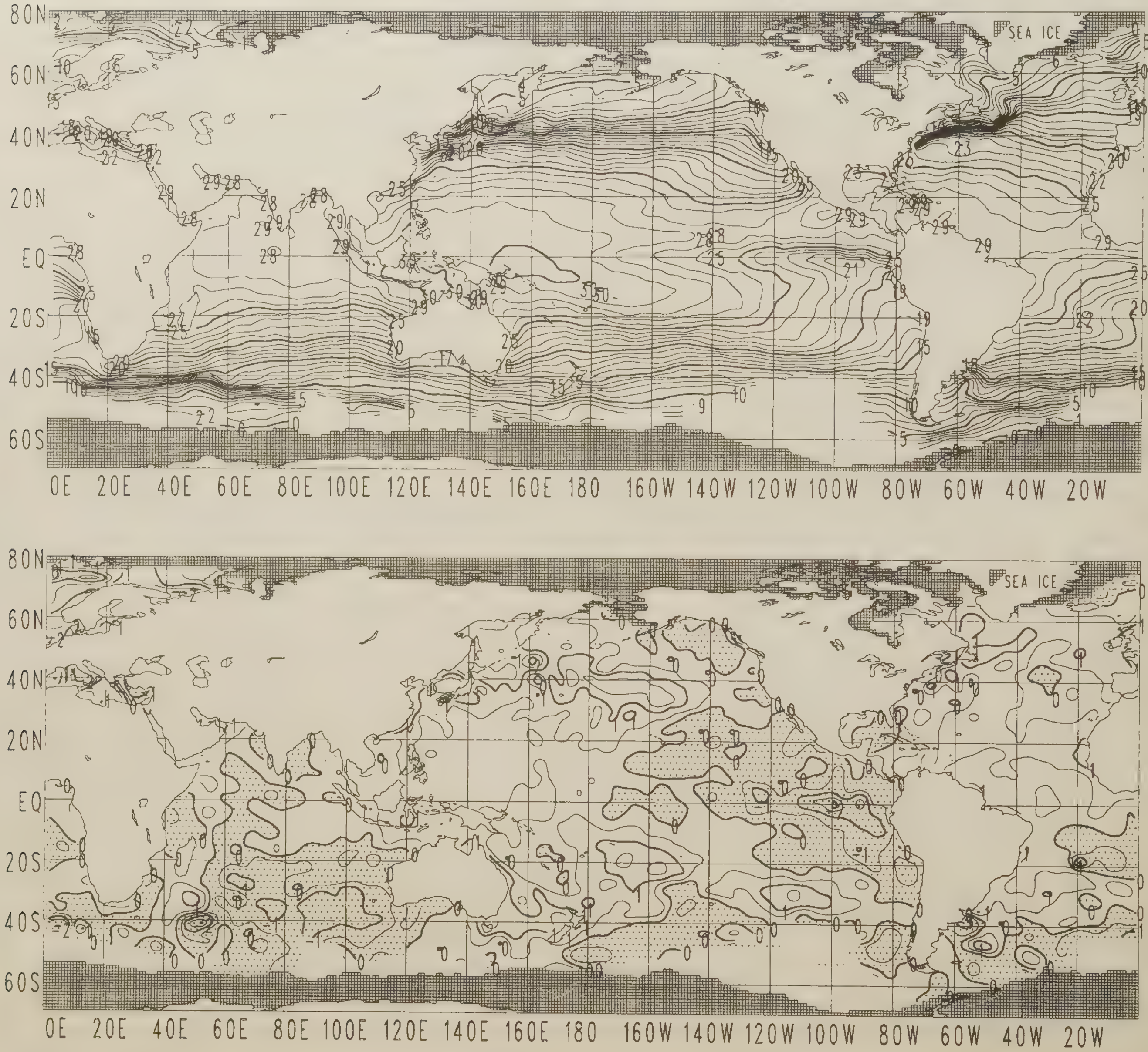

第16図　漂流型海洋気象ブイロボットの軌跡と観測要素の時系列図

Fig.16　Time series of JMA drifting buoy observation.
The upper panel shows paths of the buoys. Circles denote the position at 00h UTC everyday.
The lower panel shows time series of observation data.



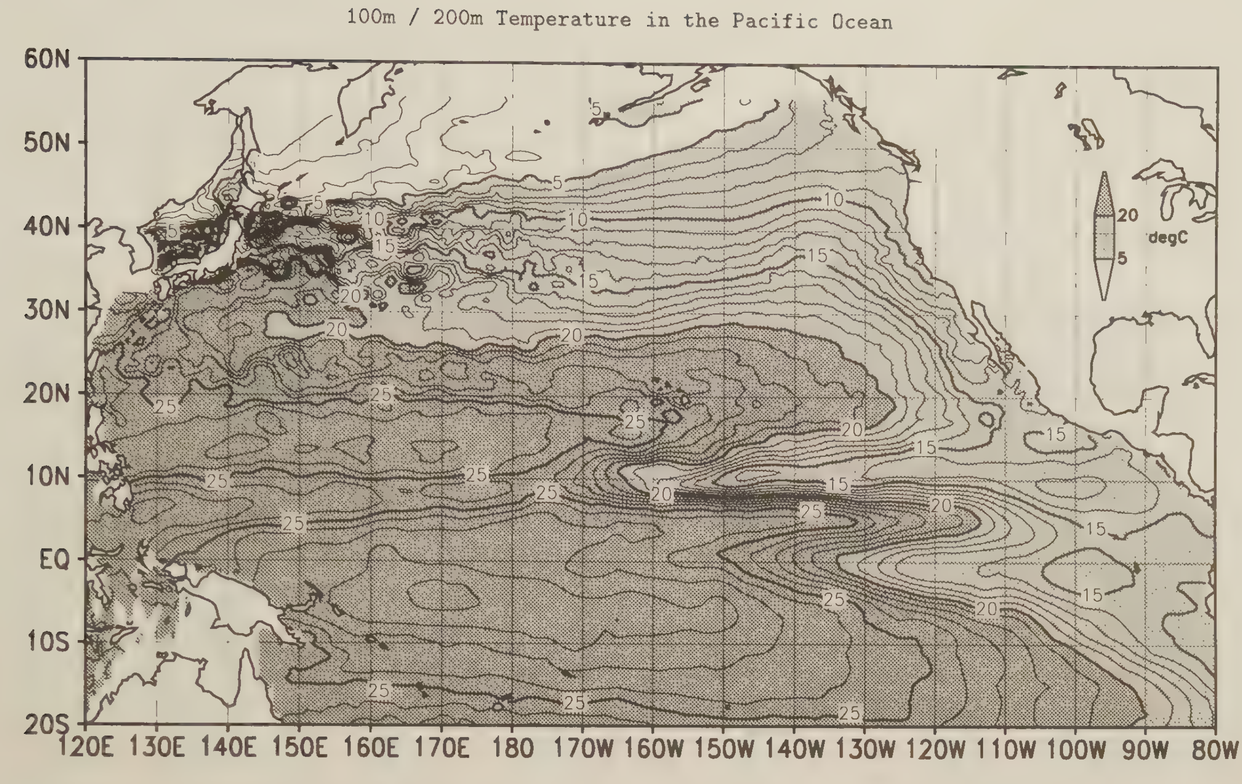

第16図 つづき
Fig.16 (continued)

# SST & Anomalies in the Global Ocean



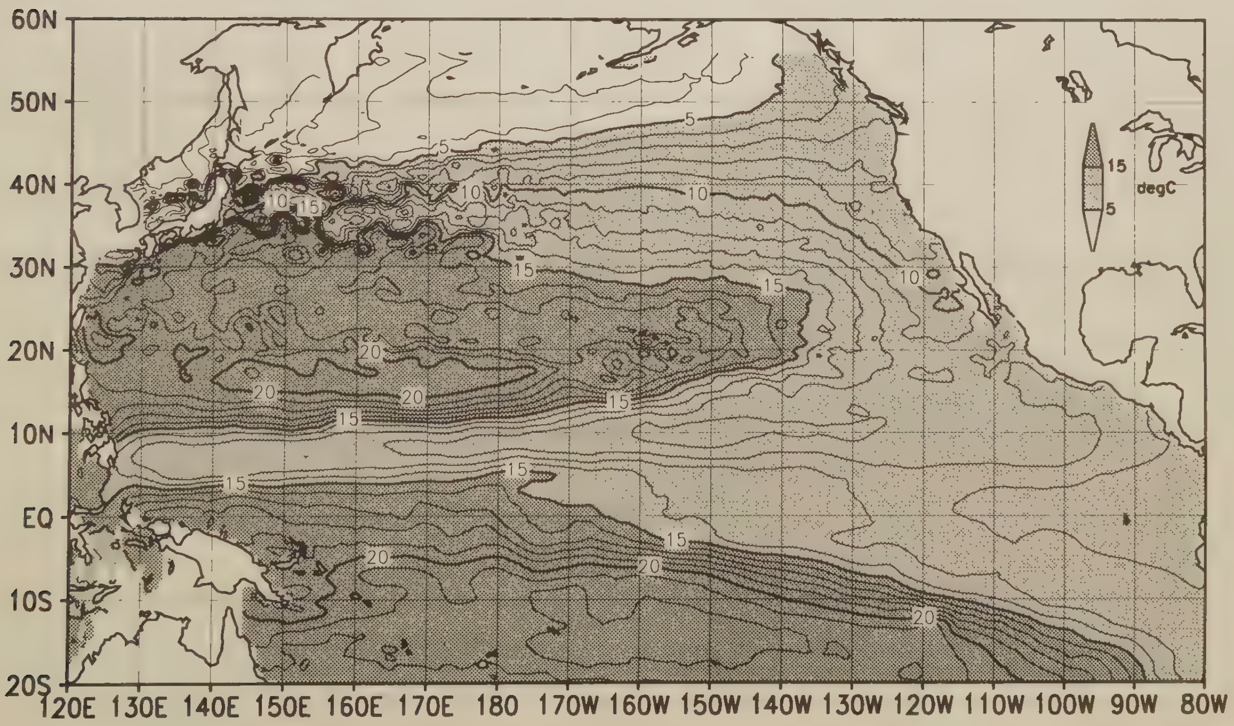

第17図　全球月平均海面水温図（上）及び偏差図（下）（2005年11月）

Fig. 17 Monthly mean SST over the global ocean (top) and anomalies (bottom) for November 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of ±0.5°C are shown by thin lines. Negative anomalies are stippled. Maximum coverage of sea ice is shaded. Data sources for sea ice are U.S. National Ice Center (polar regions) and JMA (the Sea of Okhotsk).



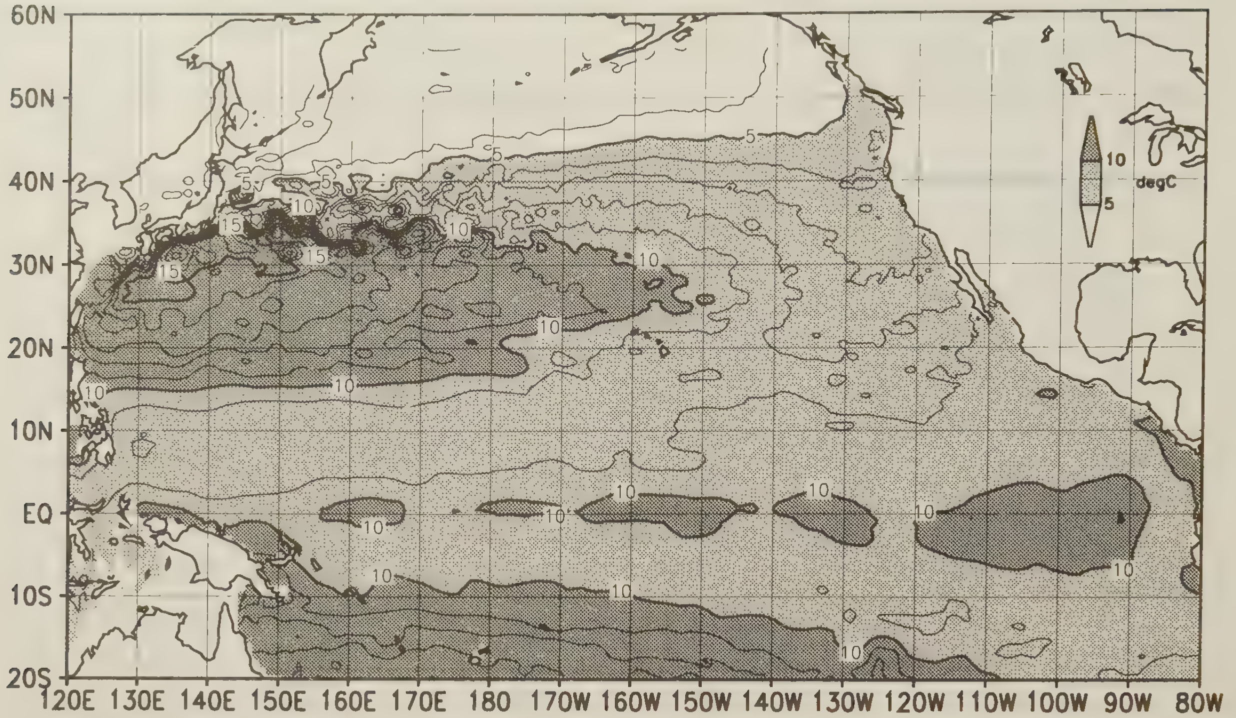

第 18 図　太平洋月平均表層水温図（深さ 100 m）　(2005 年 11 月)
（海洋総合解析システムによる）

Fig. 18　Monthly mean subsurface (100 m) temperature in the Pacific Ocean for November 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



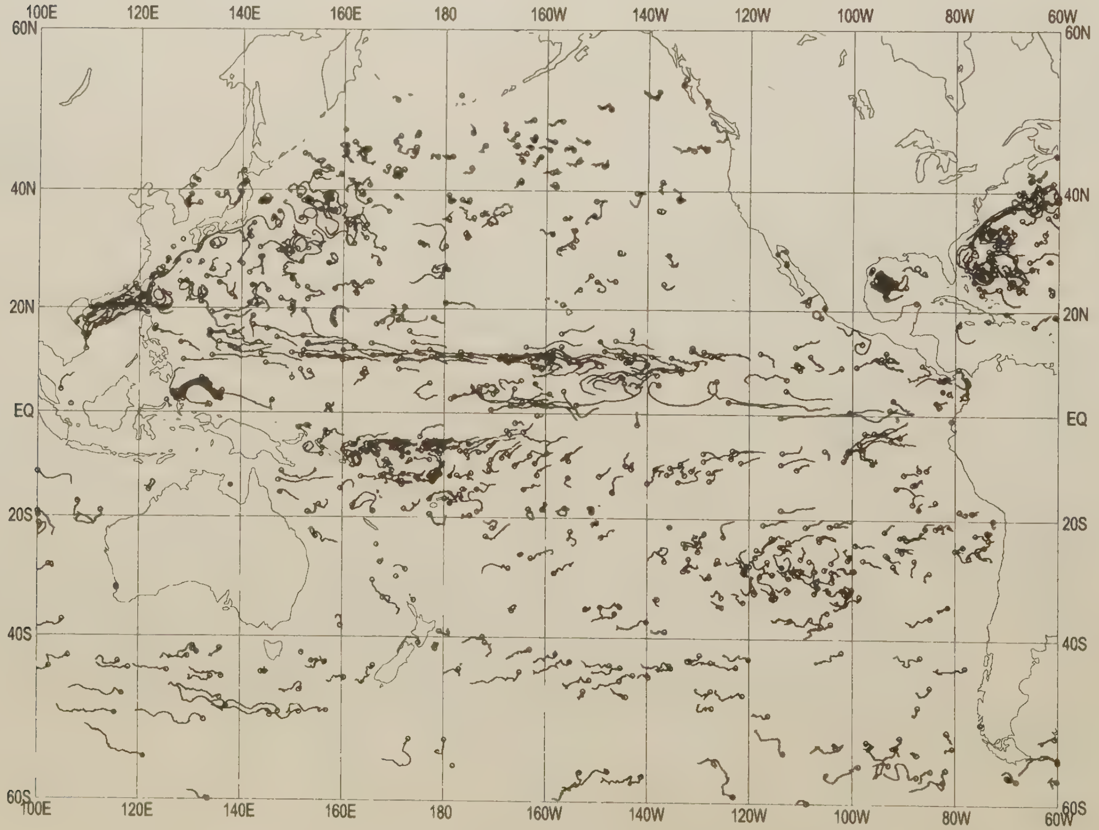

第 19 図　太平洋月平均表層水温図（深さ 200 m）　(2005 年 11 月)
（海洋総合解析システムによる）

Fig. 19　Monthly mean subsurface (200 m) temperature in the Pacific Ocean for November 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)




第 20 図　太平洋月平均表層水温図（深さ 400 m）（2005 年 11 月）
（海洋総合解析システムによる）

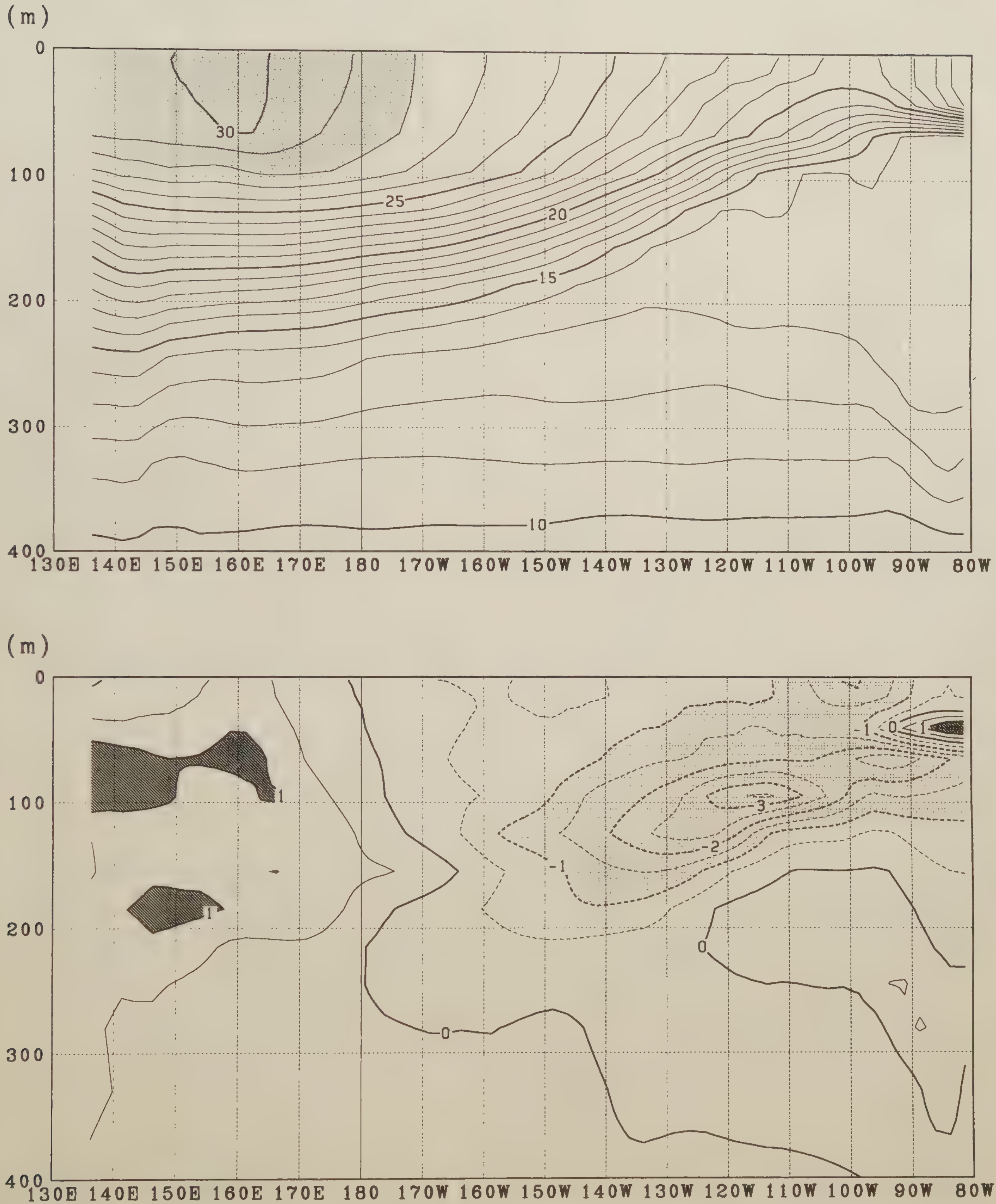
Fig. 20　Monthly mean subsurface (400 m) temperature in the Pacific Ocean for November 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)




第 21 図　太平洋ブイ流跡図（2005 年 11 月）

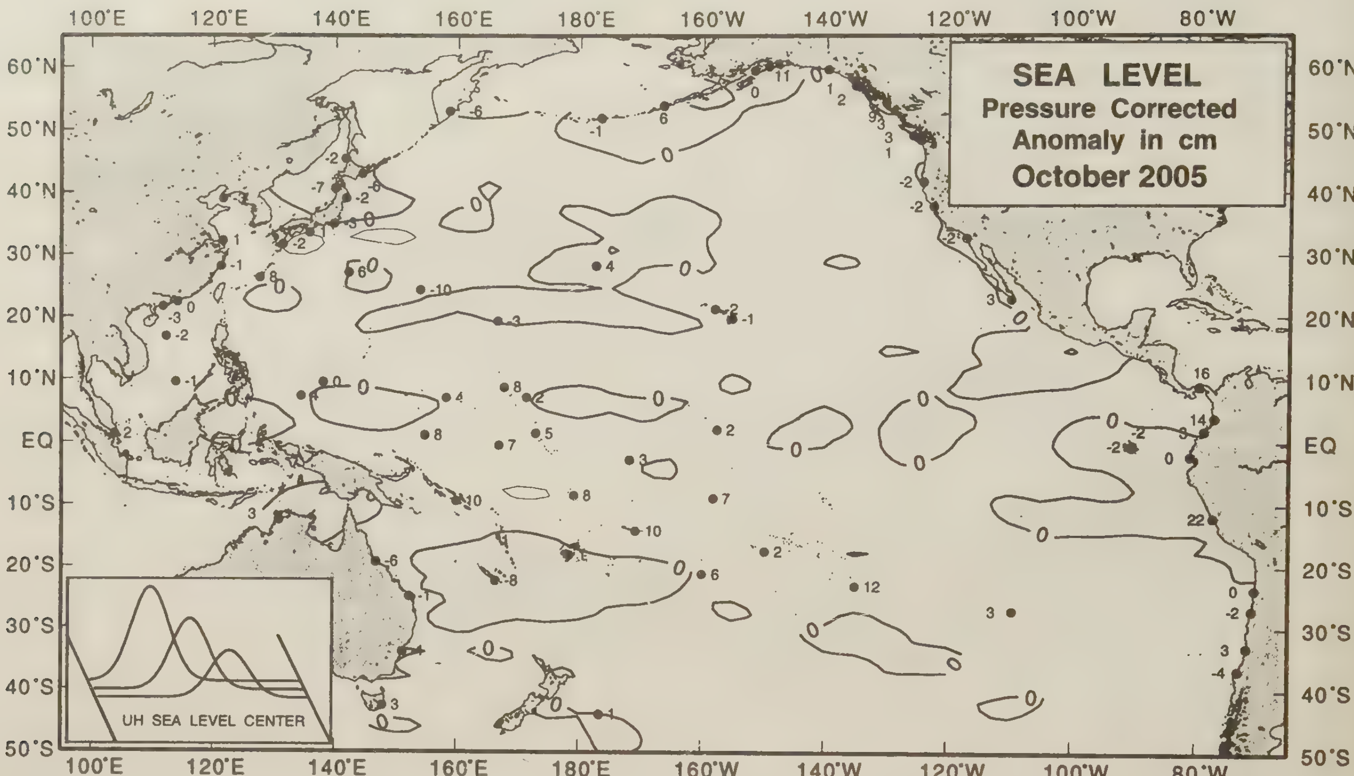
Fig. 21　Trajectories of drifting buoys in the Pacific Ocean during November 2005. Each track is for one buoy. Small circles represent the last positions for the month.

Depth-Longitude Sections of Equatorial Temperature & Anomalies



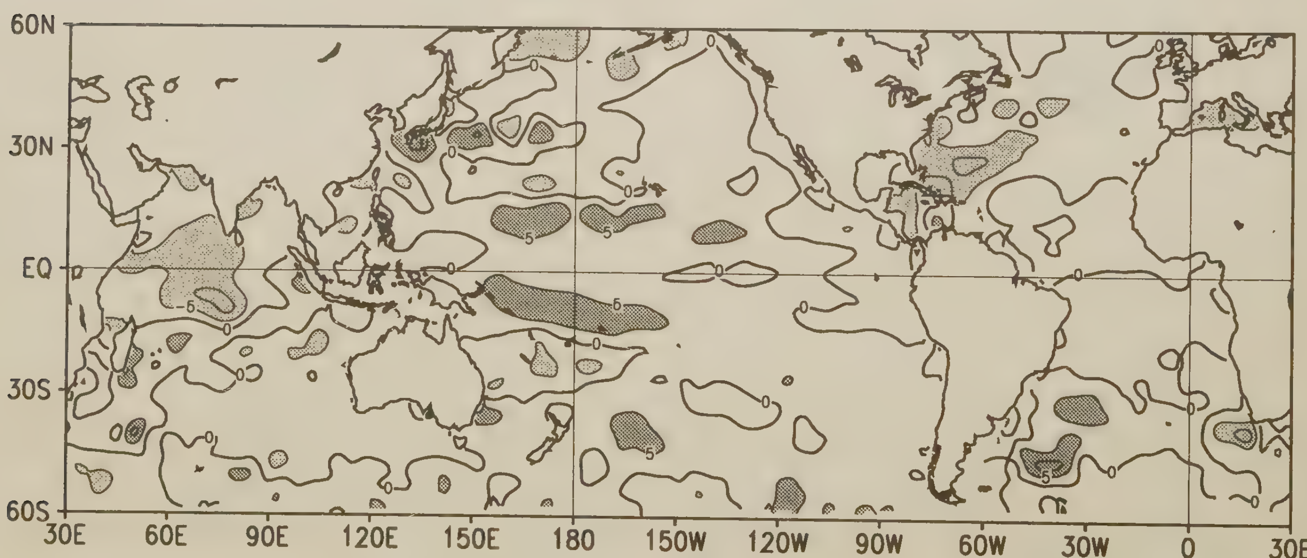

第22図　太平洋赤道に沿う表層水温（上）及び偏差（下）の深度－経度断面図（2005年11月）

Fig. 22 Depth-longitude sections of temperature (top) and anomalies (bottom) along the equator in the Pacific Ocean for November 2005. Data are derived from the Ocean Data Assimilation System of JMA. Contour intervals are 1°C (top) and 0.5°C (bottom). Values greater than 28°C in the top panel are shaded. In the bottom panel, values greater than 1°C are dark-shaded and values less than -1°C are light-shaded. Anomalies are computed from 1987-2004 base period means.



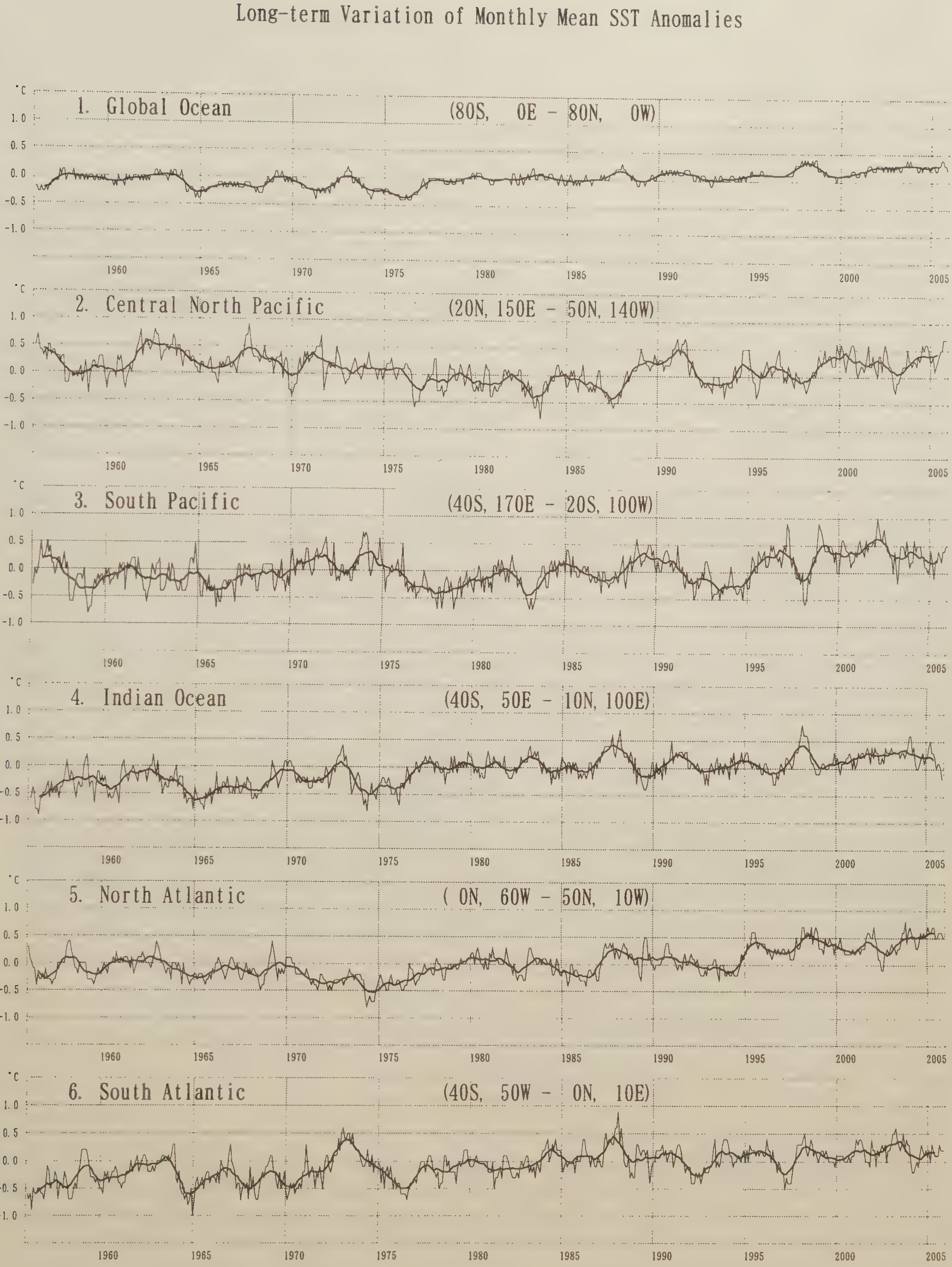

第 23 図　太平洋月平均海面水位偏差図（2005 年 10 月）

Fig. 23　Monthly sea level anomalies for October 2005 obtained from mean sea level (1993-2001) adjusted for atmospheric pressure. This figure is prepared by the SOC of ISLP-PAC, Department of Oceanography, University of Hawaii.




第 24 図　全球月平均海面高度偏差図（2005 年 10 月）

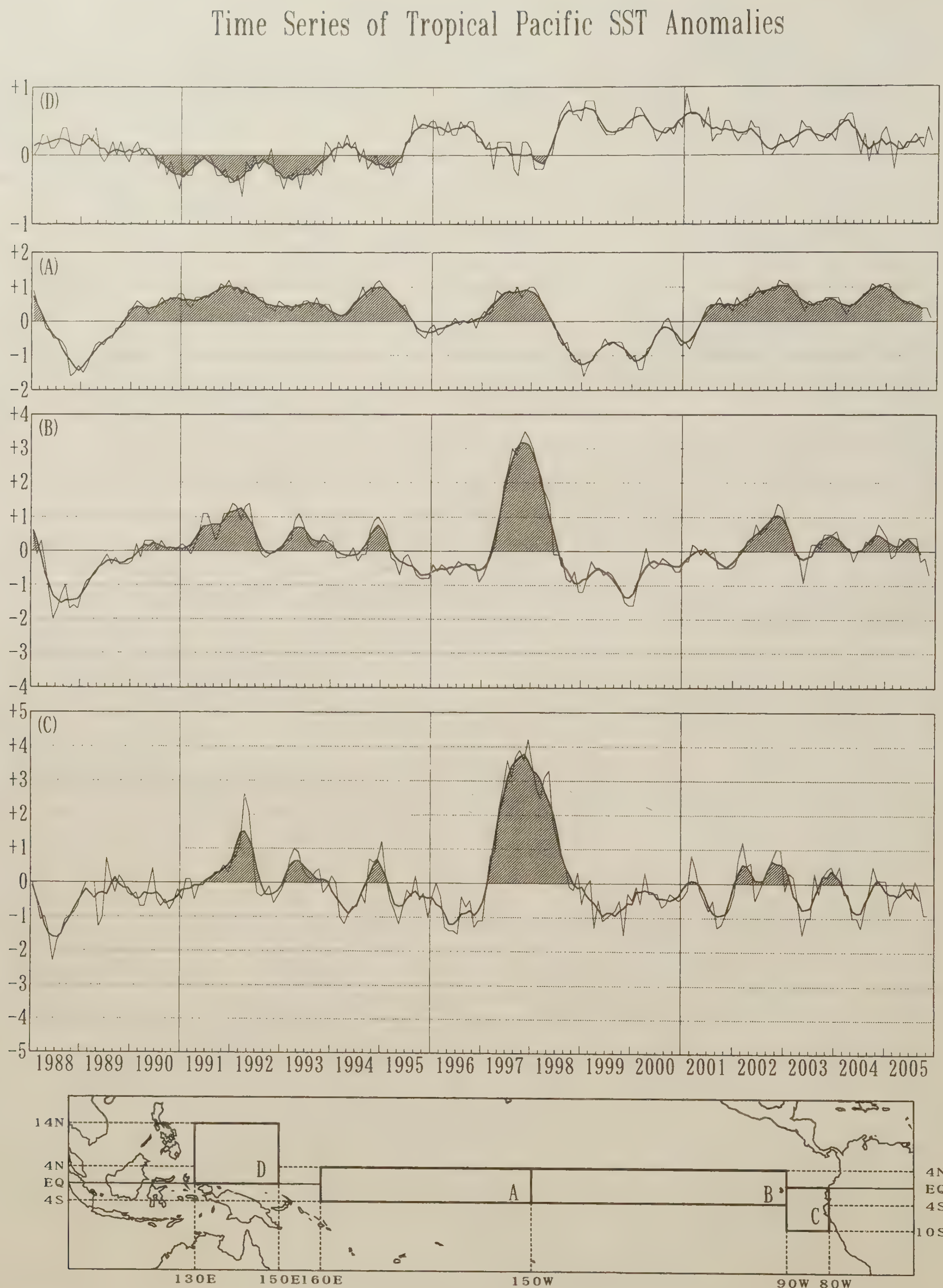
Fig. 24　Monthly sea surface height anomalies in the global ocean derived from the altimeter data of Jason-1 for October 2005. Contour interval is 5 cm. Positive anomalies exceeding +5 cm are dark-shaded and negative anomalies exceeding -5 cm are light-shaded. Anomalies are computed from 1993-1998 base period means.




第25図 海域平均海面水温偏差の長期変動

Fig. 25 Long-term variations of monthly mean SST anomalies (°C) averaged for the sub-areas shown in the right panel. Anomalies are computed from the JMA climatology (1971-2000). Thin lines show the monthly mean and thick lines their 13-month running means.






第26図　太平洋熱帯域の海面水温偏差時系列図

Fig. 26 Time series of monthly mean SST anomalies (°C) in the tropical Pacific Ocean for the areas indicated at the bottom panel.
Thin lines show the monthly means and thick lines their 5-month running means. Positive anomalies (A, B, C) and negative anomalies (D) are shaded. Anomalies are computed from the JMA climatology (1971-2000).

| MONTH YEAR | SEA SURFACE TEMPERATURE AND ANOMALY (°C) REGION D 14N-EQ 130E-150E | | REGION A 4N-4S 160E-150W | | REGION B 4N-4S 150W-90W | | REGION C EQ-10S 90W-80W | | SOI | SEA LEVEL PRESSURE ANOMALY (hPa) TAHITI 17-33S 149-37W | DARWIN 12-24S 130-52E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN 03 | 28.7 | 0.2 | 29.1 | 1.1 | 26.2 | 0.8 | 24.3 | -0.2 | -0.1 | -0.1 | 0.2 |
| FEB 03 | 28.4 | 0.1 | 28.9 | 0.9 | 26.8 | 0.5 | 26.3 | 0.3 | -0.5 | -1.5 | -0.2 |
| MAR 03 | 28.7 | 0.2 | 29.0 | 0.9 | 27.0 | -0.1 | 26.5 | 0.2 | -0.3 | -0.2 | 0.5 |
| APR 03 | 29.3 | 0.5 | 28.8 | 0.6 | 27.1 | -0.1 | 24.9 | -0.5 | -0.1 | 0.5 | 0.8 |
| MAY 03 | 29.7 | 0.4 | 28.9 | 0.3 | 26.0 | -0.9 | 22.8 | -1.5 | -0.6 | -0.7 | 0.2 |
| JUN 03 | 29.8 | 0.4 | 29.1 | 0.6 | 25.9 | -0.3 | 21.9 | -1.0 | -0.9 | -0.9 | 0.4 |
| JUL 03 | 29.6 | 0.3 | 29.0 | 0.5 | 25.6 | 0.2 | 20.9 | -1.0 | 0.2 | 0.7 | 0.3 |
| AUG 03 | 29.4 | 0.2 | 28.9 | 0.5 | 24.9 | 0.2 | 21.2 | 0.3 | 0.0 | -0.2 | -0.1 |
| SEP 03 | 29.5 | 0.2 | 28.9 | 0.5 | 24.8 | 0.1 | 20.2 | -0.3 | -0.1 | -0.3 | 0.0 |
| OCT 03 | 29.7 | 0.3 | 29.1 | 0.7 | 25.2 | 0.5 | 21.1 | 0.2 | -0.1 | -0.5 | -0.4 |
| NOV 03 | 29.6 | 0.3 | 29.1 | 0.7 | 25.2 | 0.5 | 22.2 | 0.4 | -0.2 | 0.0 | 0.4 |
| DEC 03 | 29.2 | 0.2 | 28.9 | 0.7 | 25.5 | 0.5 | 23.4 | 0.5 | 1.1 | 0.9 | -1.1 |
| JAN 04 | 29.0 | 0.5 | 28.7 | 0.7 | 26.0 | 0.6 | 24.7 | 0.2 | -1.0 | -1.5 | 0.9 |
| FEB 04 | 28.8 | 0.5 | 28.4 | 0.4 | 26.5 | 0.2 | 26.5 | 0.5 | 0.8 | 1.4 | -0.6 |
| MAR 04 | 29.1 | 0.6 | 28.3 | 0.2 | 27.2 | 0.1 | 26.0 | -0.3 | 0.1 | -0.7 | -1.3 |
| APR 04 | 29.4 | 0.6 | 28.7 | 0.5 | 27.3 | 0.1 | 25.1 | -0.3 | -1.4 | -1.0 | 1.3 |
| MAY 04 | 29.6 | 0.3 | 29.1 | 0.5 | 26.6 | -0.3 | 23.3 | -1.0 | 1.2 | 0.9 | -0.7 |
| JUN 04 | 29.4 | 0.0 | 29.1 | 0.6 | 26.2 | 0.0 | 21.9 | -1.0 | -1.1 | 0.1 | 1.7 |
| JUL 04 | 29.6 | 0.3 | 29.3 | 0.8 | 25.4 | 0.0 | 20.6 | -1.3 | -0.6 | -0.2 | 0.9 |
| AUG 04 | 29.1 | -0.1 | 29.2 | 0.8 | 25.0 | 0.3 | 20.2 | -0.7 | -0.5 | -0.5 | 0.3 |
| SEP 04 | 29.5 | 0.2 | 29.5 | 1.1 | 24.9 | 0.2 | 20.3 | -0.2 | -0.2 | 0.4 | 0.9 |
| OCT 04 | 29.4 | 0.0 | 29.4 | 1.0 | 25.1 | 0.4 | 21.4 | 0.5 | -0.2 | 0.0 | 0.3 |
| NOV 04 | 29.6 | 0.3 | 29.4 | 1.0 | 25.5 | 0.8 | 21.9 | 0.1 | -0.7 | -0.8 | 0.5 |
| DEC 04 | 29.4 | 0.4 | 29.3 | 1.1 | 25.6 | 0.6 | 23.0 | 0.1 | -0.7 | -1.4 | -0.1 |
| JAN 05 | 28.7 | 0.2 | 29.1 | 1.1 | 25.8 | 0.4 | 24.6 | 0.1 | 0.3 | 0.3 | -0.3 |
| FEB 05 | 28.1 | -0.2 | 28.7 | 0.7 | 26.1 | -0.2 | 25.1 | -0.9 | -2.2 | -3.8 | 1.9 |
| MAR 05 | 28.7 | 0.2 | 28.8 | 0.7 | 27.0 | -0.1 | 25.8 | -0.5 | 0.2 | 0.8 | 0.5 |
| APR 05 | 28.9 | 0.1 | 28.8 | 0.6 | 27.6 | 0.4 | 25.1 | -0.3 | -0.5 | 0.2 | 1.3 |
| MAY 05 | 29.4 | 0.1 | 29.1 | 0.5 | 27.2 | 0.3 | 24.4 | 0.1 | -1.2 | -0.8 | 0.9 |
| JUN 05 | 29.6 | 0.2 | 29.1 | 0.6 | 26.6 | 0.4 | 22.7 | -0.2 | 0.4 | 0.0 | -0.6 |
| JUL 05 | 29.6 | 0.3 | 29.0 | 0.5 | 25.8 | 0.4 | 21.5 | -0.4 | 0.1 | 0.3 | 0.2 |
| AUG 05 | 29.4 | 0.2 | 28.8 | 0.4 | 25.1 | 0.4 | 21.0 | 0.1 | -0.6 | -0.5 | 0.4 |
| SEP 05 | 29.4 | 0.1 | 28.8 | 0.4 | 24.4 | -0.3 | 20.3 | -0.2 | 0.3 | 0.4 | -0.2 |
| OCT 05 | 29.8 | 0.4 | 28.8 | 0.4 | 24.5 | -0.2 | 20.0 | -0.9 | 1.2 | 1.3 | -0.8 |
| NOV 05 | 29.5 | 0.2 | 28.5 | 0.1 | 24.0 | -0.7 | 20.9 | -0.9 | -0.3 | -0.8 | -0.4 |

第1表　太平洋熱帯域の大気及び海洋の監視指数

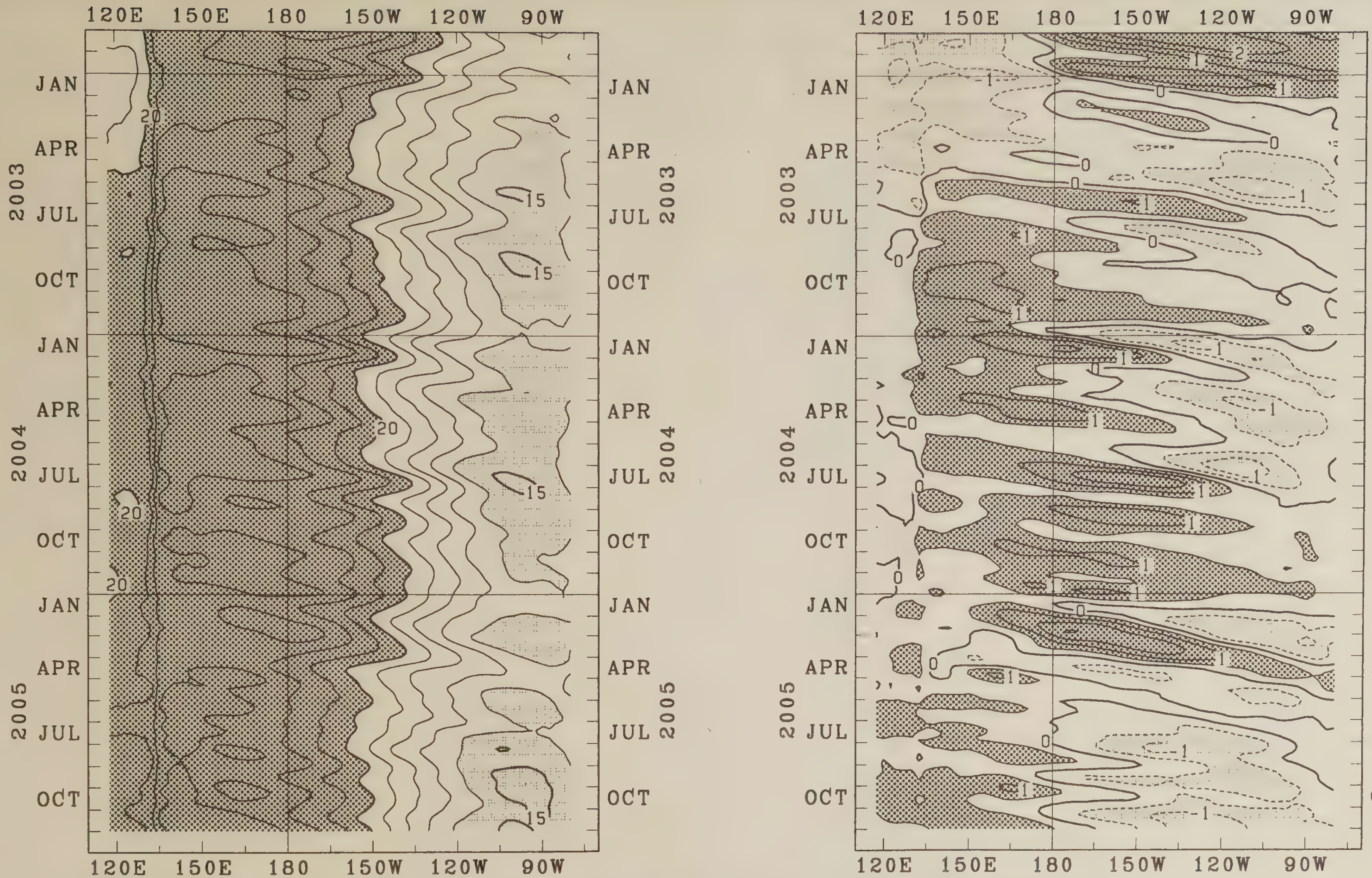
Table 1 Atmospheric and oceanic monitoring indices in the tropical Pacific Ocean




第 27 図　赤道に沿った海面水温（左）および偏差（右）の時間-経度断面図

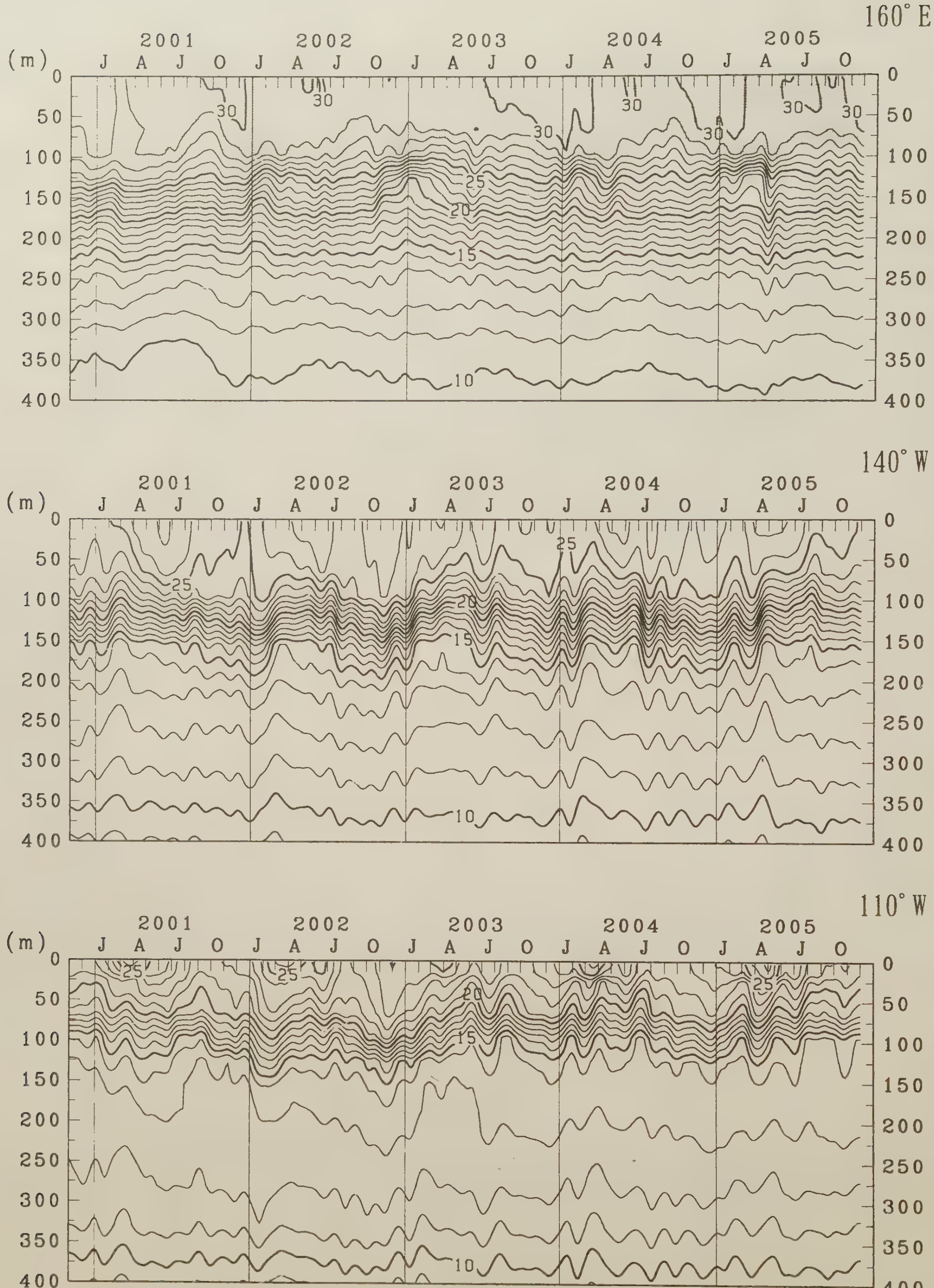
Fig. 27　Time-longitude sections of SSTs (left) and anomalies (right) along the equator (2 °N-2 °S) in the global ocean. Contour intervals are 1 ℃ (left) and 0.5 ℃ (right). Values greater than 28 ℃ (+0.5 ℃) are dark-shaded and values less than 23 ℃ (-0.5 ℃) are light-shaded in the left (right) panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1971-2000 base period means.

Time-Longitude Sections of Ocean Heat Content & Anomalies (Eq.)



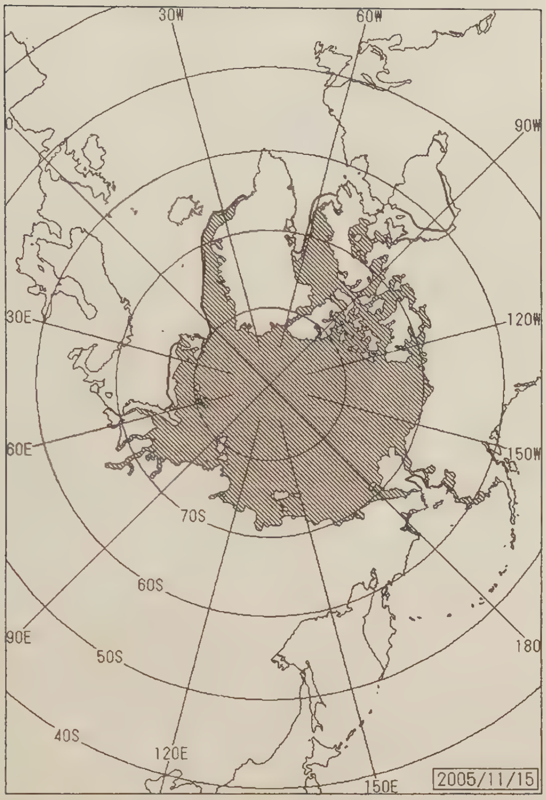

第28図　太平洋の赤道に沿う海洋表層の貯熱量（左）及び偏差（右）の時間ー経度断面図

Fig. 28 Time-longitude sections of ocean heat content in the upper 260 m along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour intervals are 1°C (left) and 0.5°C (right). Values greater than 20°C (+0.5°C) are dark-shaded and values less than 16°C (-0.5°C) are light-shaded in the left (right) panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1987-2004 base period means.



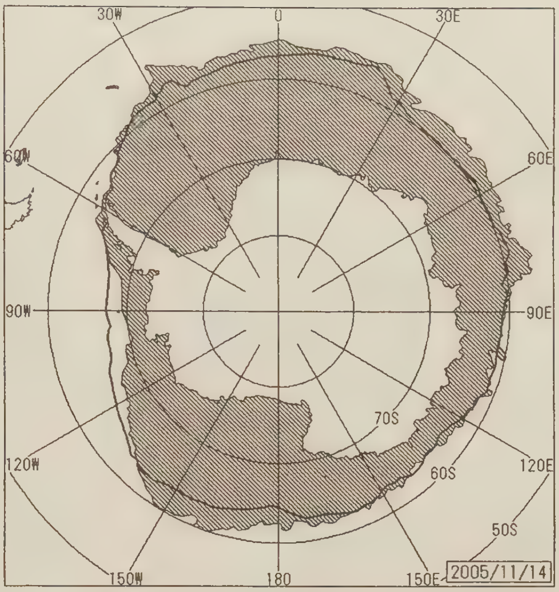

第29図　太平洋赤道域の表層水温の時間－深度断面図
（上：西部、中：中部、下：東部）

Fig. 29 Time-depth sections of equatorial subsurface temperature for the western Pacific (top, 160° E), the central Pacific (middle, 140° W) and the eastern Pacific (bottom, 110° W). Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1° C. Values greater than 28° C are shaded.



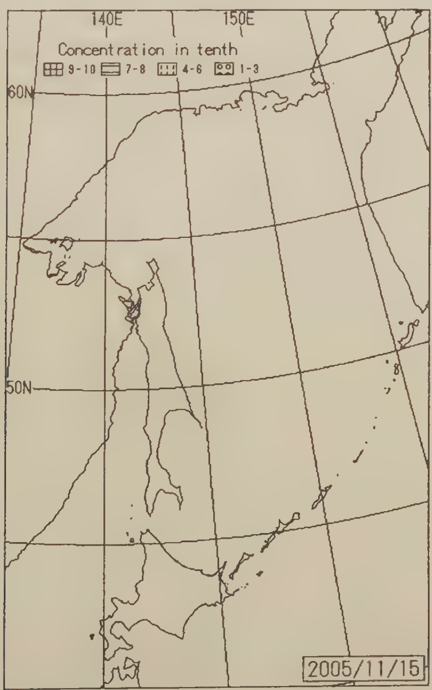

第 30-1 図　北極域の海氷図(2005 年 11 月 15 日)

Fig.30-1 Sea ice chart for the Arctic on 15 Nov. 2005.
The shaded area represents the sea ice extent. The bold line denotes the mean ice edge averaged for the period from 1979 through 2000.
The data source is the National Ice Center (USA).



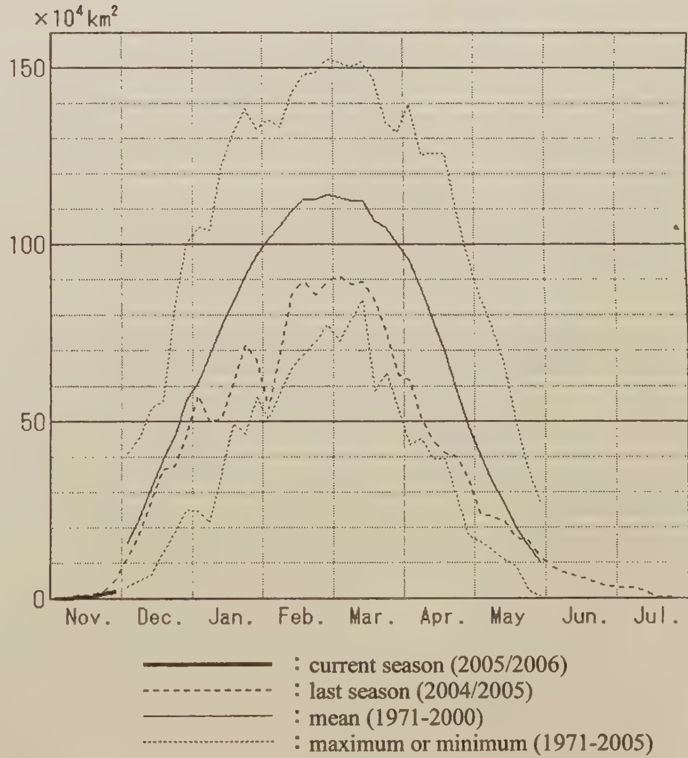

第 30-2 図　南極域の海氷図(2005 年 11 月 14 日)

Fig.30-2 Sea ice chart for the Antarctic on 14 Nov. 2005.
The shaded area represents the sea ice extent. The bold line denotes the mean ice edge averaged for the period from 1979 through 2000.
The data source is the National Ice Center (USA).



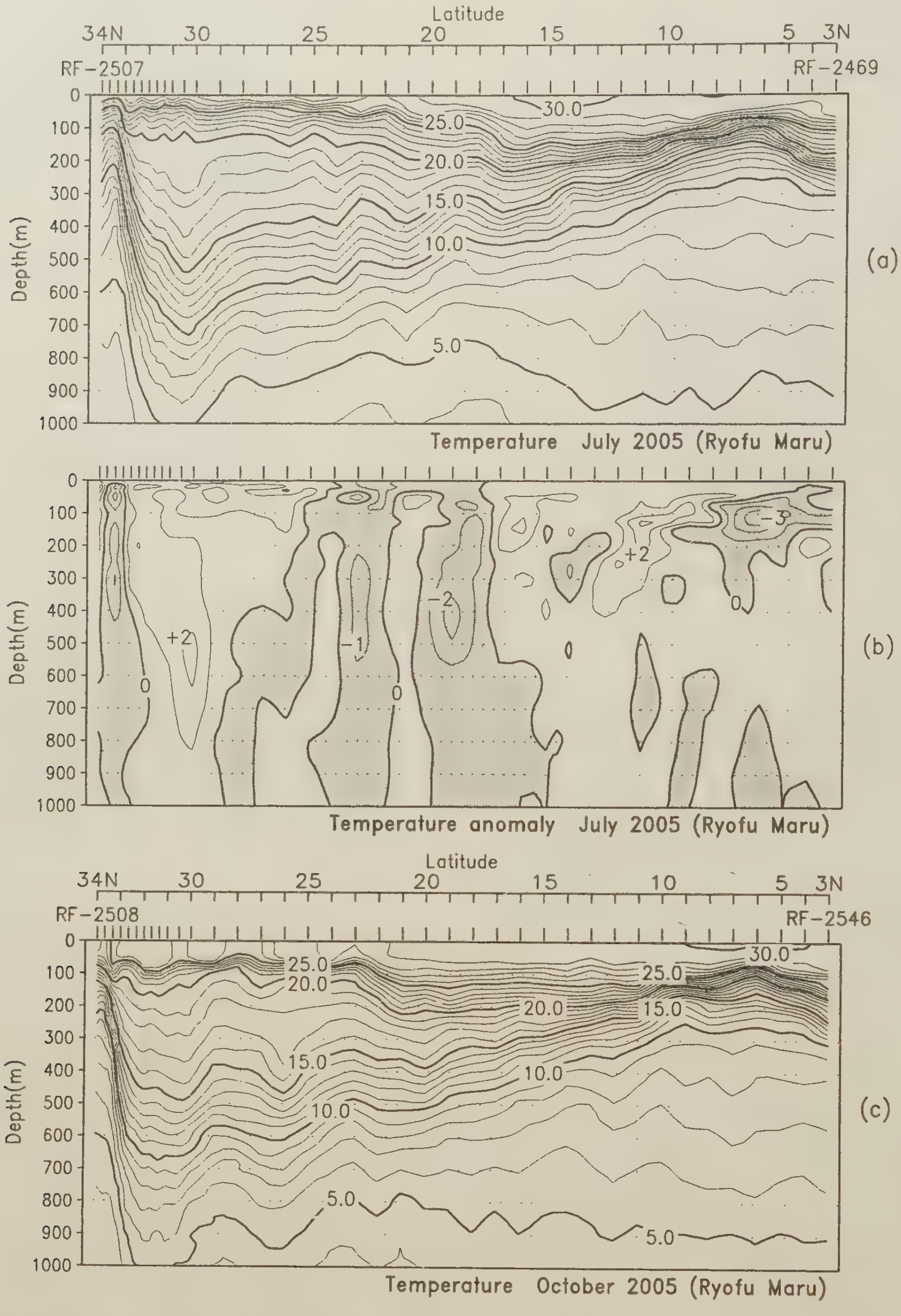

第 30-3 図　オホーツク海の海氷図(2005 年 11 月 15 日)

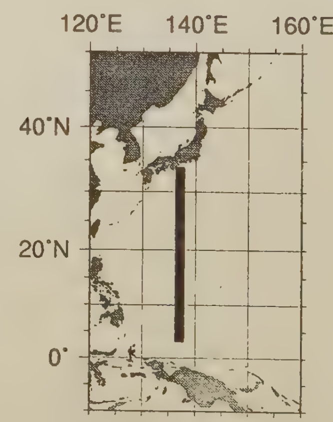
Fig.30-3 Sea ice chart for the Sea of Okhotsk on 15 Nov. 2005.




第 30-4 図　オホーツク海の海氷域面積の経過図

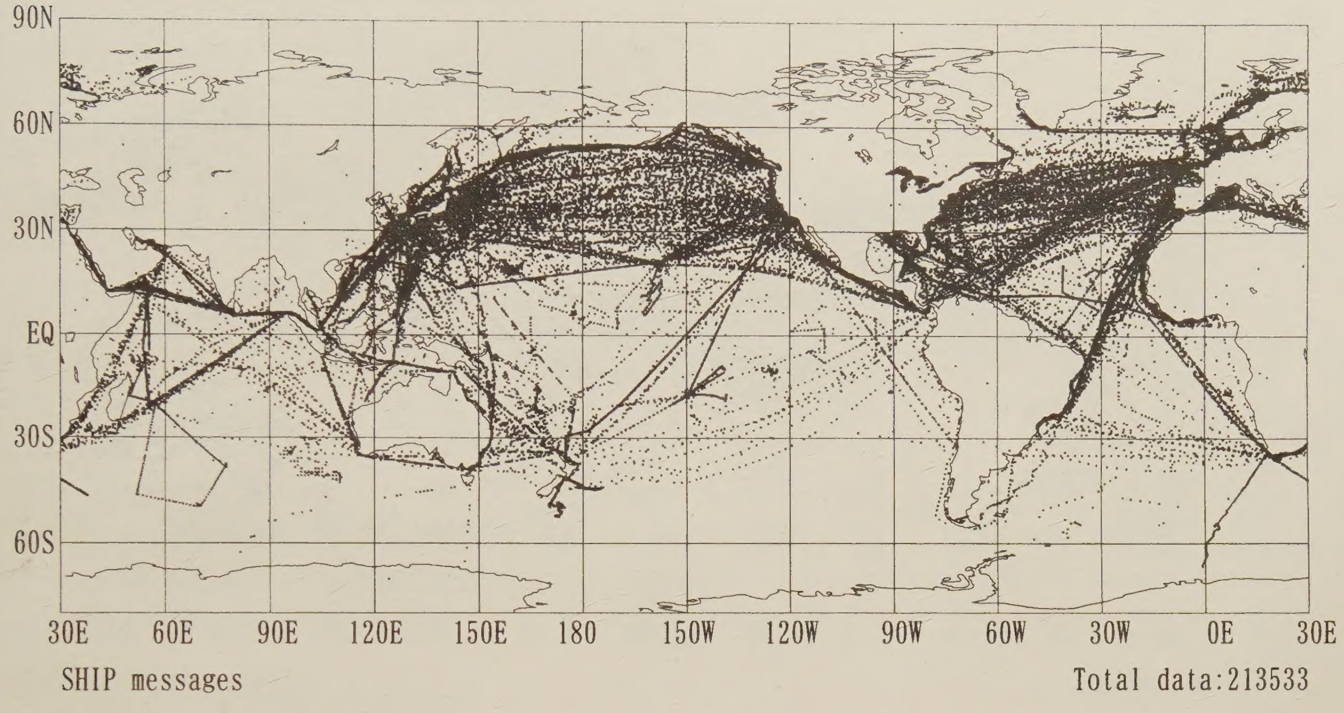
Fig.30-4 Time series of 5-day sea ice area in the Sea of Okhotsk

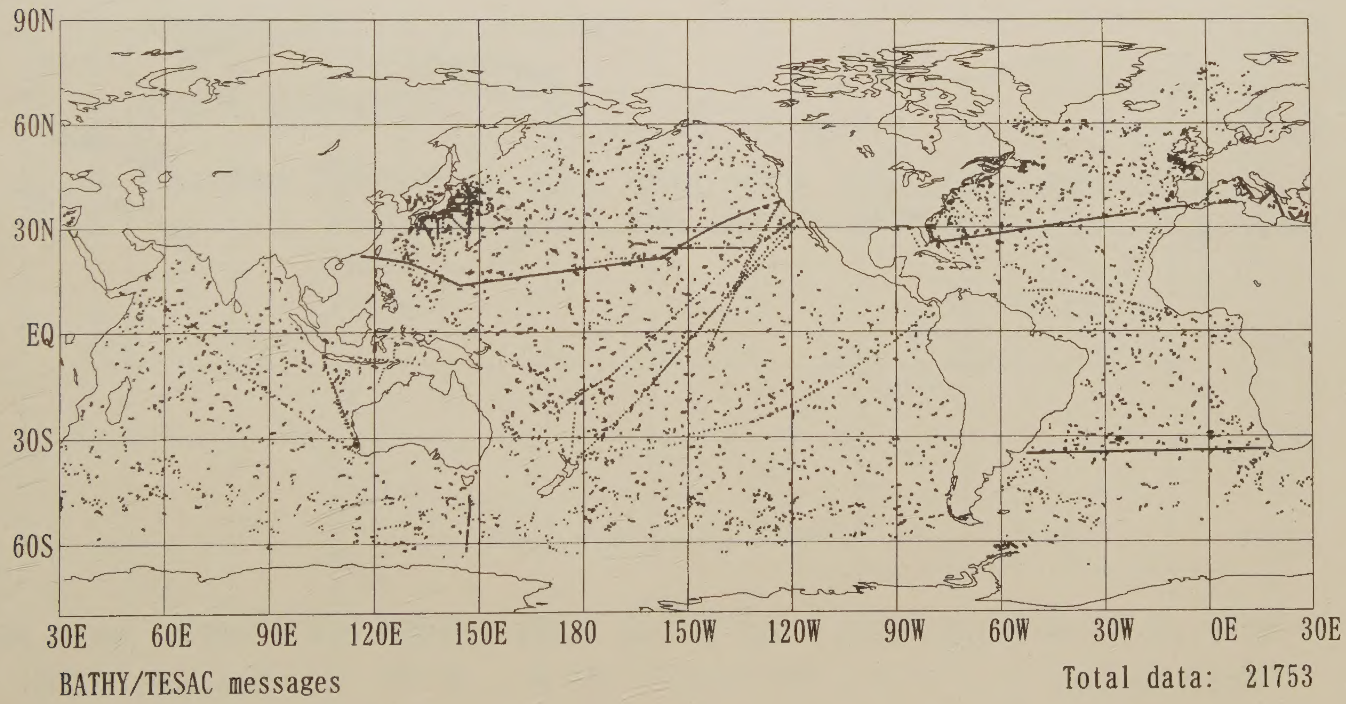



**第 31 図** 気象庁凌風丸による東経 137 度に沿った鉛直断面図 (℃). (a) 水温 (2005 年 7 月), (b) 水温平年偏差 (2005 年 7 月, 平年値の統計期間は 1972〜2000 年), (c) 水温 (2005 年 10 月), (d) 観測位置図.

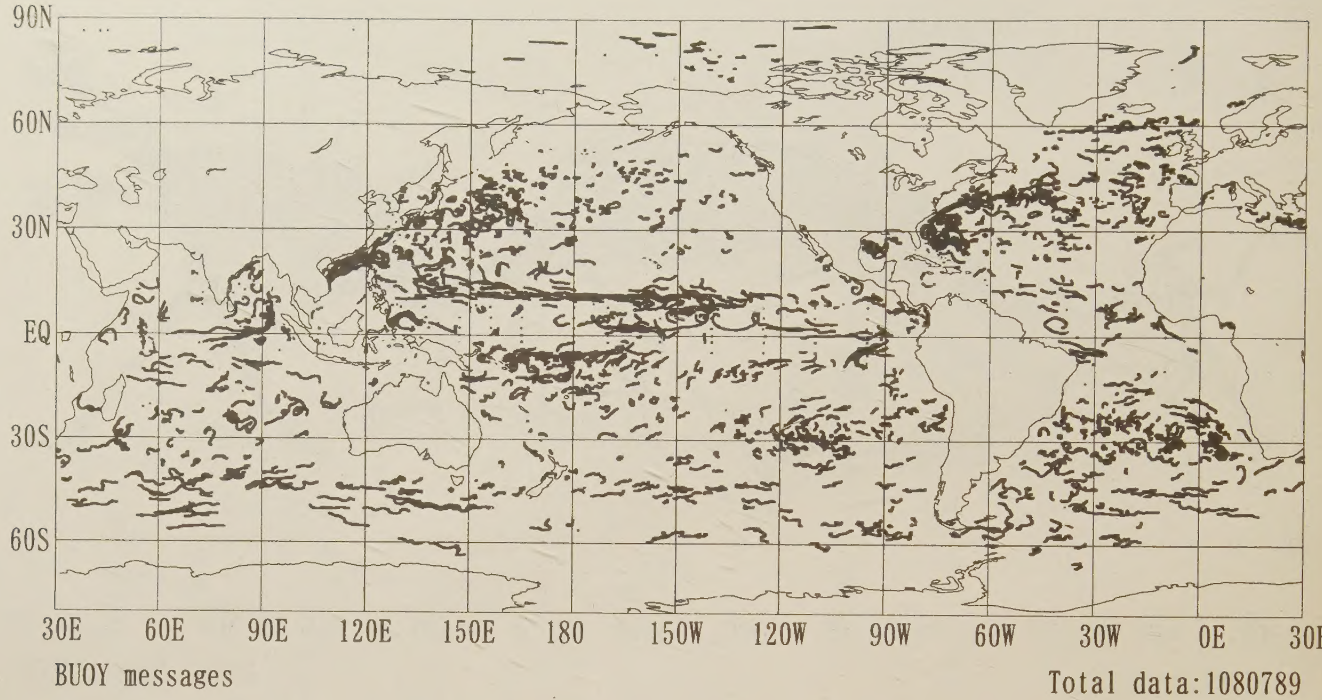
**Fig. 31** Vertical sections along 137°E observed by R/V Ryofu Maru. (a) Water temperature in July 2005, (b) Water temperature anomalies in July 2005, (c) Water temperature in October 2005, and (d) Location of oceanographic observations along 137°E. Anomalies are computed from 1972–2000 base period means.

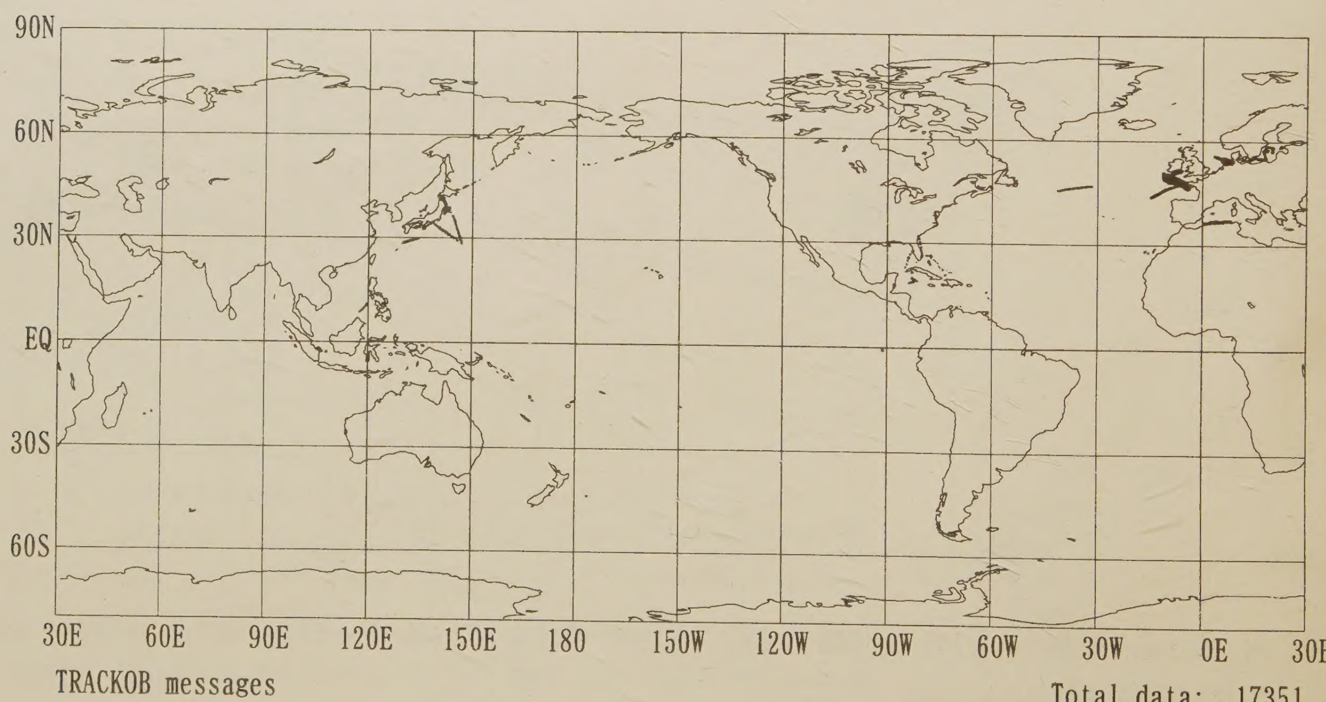



第32-1図 測点分布図(2005年11月)

Fig. 32-1 Geographical distribution of SHIP messages (top) and BATHY/TESAC messages (bottom) for November 2005.




第32-2図　測点分布図(2005年11月)

Fig. 32-2 Geographical distribution of BUOY messages (top) and TRACKOB messages (bottom) for November 2005.

# 気　象　庁　海　洋　月　報

## Monthly Ocean Report

## November 2005 (No. 155)


謝　　辞

本月報掲載の 2005 年 11 月のプロダクトには、気象庁が観測したデータ及び GTS（全球気象通信網）を通じて入手した国際気象通報式による通報のほか、下記の機関等から提供していただいたデータを使用しています。

防衛庁、水産庁、海上保安庁

水産総合研究センター

海洋研究開発機構、宇宙航空研究開発機構

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